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**Research Report**

## International Trade and Economic Diversification: Patterns and Policies in the Transition Economies

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## **International Trade and Economic Diversification: Patterns and Policies in the Transition Economies**



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*Michael Landesmann*

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the Transition Economies**

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## **Summary**

*This report counter-poses the patterns of trade specialization and trade diversification of two groups of economies: the new member states of the European Union, NMS, and the follower countries of the Soviet Union, the NIS (Newly Independent States). It is shown that the NIS export structures are characterized by an exceptionally high degree of concentration and a very strong specialization in trade with the EU (towards fuel, metals, and – for a sub-group of NIS economies – labour-intensive commodities). The NMS economies show a much more diversified export structure, there is more evidence for upgrading. There is, furthermore, a discussion of differences of trade structures with respect to EU markets, intra-NIS trade and trade with the Rest of the World. We discuss reasons for the differences in the degree of export concentration and patterns of trade specialization between the two groups of economies, particularly the link to institutional and reform processes, as well as potential policy options for NIS economies.*

**Keywords:** trade specialization, trade diversification, NIS economies, New Member States

**JEL classification:** F1, F10, F14, P23, P27, P33



## **International trade and economic diversification: patterns and policies in the transition economies**

### **1 Introduction**

Two groups of transition economies are the focus of this paper: the Central and East European economies that have joined the European Union in 2004 and 2007 (the New Member States; NMS<sup>1</sup>) and the follower countries of the Soviet Union excepting the Baltic states (this group is also known as the group of Newly Independent States, NIS<sup>2</sup>).

In many studies important differences in the development of these two groups of countries since the fall of the Iron Curtain and in the beginnings of transition were pointed out:

- The NMS had from the early stages of their transition a perspective of full membership of the European Union. This perspective had an enormous impact upon their development. The NIS countries did not have such a perspective.
- The economic reforms that initiated the transition towards a market economy started earlier and were more consistently implemented in the NMS; from the mid- to late-1990s these were pushed along by the requirements of the candidacy conditions for EU entry (the Copenhagen criteria) and then the requirement to take over the *Acquis Communautaire*. In contrast, the economic reform processes in the NIS proceeded in fits and starts and showed distortionary features linked to the political-economic structures which developed in the various countries.
- All countries of transition underwent a phase of 'deindustrialization' in the initial phase of transition, as the heavy emphasis on industry under the socialist system gave way to the development of the tertiary sector and the interlinked specialization structures of the CMEA (Council for Mutual Economic Assistance) broke apart. However, in the NIS countries the process of deindustrialization went much further and was much more prolonged (similar to the countries of Southeast Europe) while in the NMS industry recovered from the mid-1990s onwards and these countries became – in parts – popular locations for multinational investment.
- Trade structures in the NMS on the one hand and the NIS on the other differed already in the early 1990s and these structures diverged further strongly thereafter as well.

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\* I want to thank Doris Hanzl for very effective research assistance and also Robert Stehrer and Johannes Poeschl for calculations with the trade statistics.

<sup>1</sup> The group of Central and East European NMS economies consist of Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia; we shall refer to these also as the EU-10.

<sup>2</sup> The Newly Independent States of the former Soviet Union (NIS or CIS) comprise Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.



We shall deal with these issues in the following sections, although it will become clear that the four issues are intricately related.

The paper is structured as follows: in the following two sections (2.1 and 2.2) we discuss the differences between NMS and NIS in terms of the impact of the EU accession anchorage and the continuity and direction of economic reform processes in so far as these two features have an impact upon the development of production and specialization structures. In section 2.3 we analyse in detail the differences in trade patterns between the two groups of economies (market orientation, export specialization and degree of concentration on principal export products, as well as other features of trade specialization); section 2.4 refers to differences in trade patterns of the NIS with respect to intra-NIS trade, trade with the EU and trade with the RoW (Rest of the World). Section 3 picks up the topic of (lack of) trade diversification and patterns of economic development and section 4 discusses possible scenarios that could also be targeted by means of policy strategies.

## **2 'Les grandes differences': NMS and NIS**

### **2.1 *Relationship to the European integration process***

From the beginning of the transition processes in the Central and East European countries (CEECs, i.e. the countries that later became the NMS) it was evident that there would be an EU accession perspective for these economies. The timetable for such an accession was not clear for a long time, nor at what point which groups of countries would join. Nevertheless, there was no doubt that there was a perspective for accession given the strong incentive felt both by the EU-15 and the CEECs that the division within Europe created by the Iron Curtain should be overcome.

To extend the accession perspective beyond that to the NIS countries was a more complex issue: on the one hand, there was the issue of 'Enlargement overreach', which meant that the European Union could not – mostly for reasons of popular perceptions that were translated into the political process – manage to expand by more than a certain number of new members.<sup>3</sup> On the other hand, there was the issue of whether the NIS countries were themselves prepared to move in the direction of an EU accession perspective. It was (and still is) clear that there is considerable heterogeneity amongst the NIS with regard to their aiming towards EU accession or even a closer relationship with the EU: on the one hand, there are Georgia, Moldova and Ukraine, which strive towards an EU accession perspective, but it became clear that the EU was not in a state to offer full

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<sup>3</sup> The feeling of an Enlargement overreach strengthened as the actual Enlargement date approached and it played a significant role in some member countries throughout the debates regarding the passing of the EU's new Constitution which later turned into the Lisbon Treaty.

EU membership for the foreseeable future; on the other hand, there are the Caucasian and Central Asian economies and, of course, Russia, for which the issue has not even been raised and which are the subject of much looser Partnership or Neighbourhood Policy agreements. These arrangements exert a very different influence on institutional and economic structural integration and convergence processes than does a full membership perspective; we shall return to this below.

Given the two factors, Enlargement overstretch from the EU's side and lack of political will of or vis-à-vis the NIS countries, it was clear that an EU accession perspective did not provide for the NIS economies the same type of 'international integration anchor' it provided for the CEECs.

Let us discuss the role of 'international integration anchor' a bit further. The EU accession perspective is a very particular international integration anchor: it is characterized by – what the literature calls – 'deep integration', i.e. a very strong commitment towards institutional integration, as becoming an EU member means the takeover of a large amount of legislative and institutional rules and regulations which deeply shape the institutional and behavioural landscape of a country. And, of course, it calls (albeit with some transition arrangements) for the full integration of product, capital and labour markets and imposes strong rules with respect to the conduct of macroeconomic policy (these strengthen over time as newly incoming members are all obliged to also adopt an EMU membership perspective).

The EU accession perspective is not only important for the country in that it shapes people's expectations and behavioural adjustments within the country, but also – crucially – because it shapes perceptions of important international actors that are relevant for the country's economic destiny. In particular, trading partners and (actual and potential) investors are strongly affected by an EU accession perspective.

We shall now elaborate on the relationship between institutional and behavioural characteristics (such as those influenced by the presence or absence of an 'EU accession anchor') and a country's development pattern with regard to production and trade specialization: International trade and investment links across countries are based on contractual relationships apart from the economic incentives that drive such links. For certain types of transactions, the economic incentives are so great that even weaknesses in contractual foundations of such links do not deter a high level of such international transactions. For other transactions, where easier substitution possibilities exist or for which the nature of the contractual arrangement is more important, it will strongly affect the volume of such transactions. It is easy to see that these two factors can explain why certain transactions will be much more affected by the type of 'institutional anchorage' which EU accession (or an expectation of EU accession) will provide than other

transactions. For example, substitution possibilities are lower if a country exports some rare commodity (such as oil, gas, rare metals, uranium, etc.) as compared to other commodities that can be supplied by many producers and where often small relative price or quality differences decide on demand. Further, transactions that have to rely more strongly on the assurance of ownership rights (such as foreign direct investment or activities that rely more on intellectual property rights) will be more affected by contractual transparency and guarantees for stability of such rights. We shall argue that this perspective can provide a powerful approach why institutional developments in one or the other direction, either through international mechanisms of institutional anchorage (EU accession perspective) or through domestic reform constellations, can affect strongly the developing patterns of international specialization and the patterns of international investment flows. We shall return to this under 2.2 and 2.3 below.

## **2.2 Foreign direct investment and the speed and quality of reforms**

It is clear that by many indicators the reform paths of the NMS and the NIS have not only been different in timing but also in quality, i.e. one cannot simply say that the NIS are traversing the same reform path as the NMS only with a time lag of, say, 5 or 8 years. (A lot of evidence on this has been compiled in the paper by Ferto and Soos, 2008.)

Havrylyshyn (2008) presents a table using the EBRD Transition Progress Indices for the different groups of transition economies which we here reproduce (see Table 1). He separates two types of indices (LIB and INST<sup>4</sup>) and he also distinguishes two groups of NIS economies (the NISL, which include Belarus, Turkmenistan and Uzbekistan, and the NISM, which include the rest; where NISL stands for NIS countries with limited reforms and NISM for those with moderate reforms).

In a whole bunch of papers written for the INDEUNIS project<sup>5</sup>, detailed country level analyses attempted to show the relationship between lagging reforms and the pattern and speed of structural change. From Table 1 we can see that transition economies achieve rather quickly high values of the LIB indicator, while there can be a sustained gap remaining between the fast reforming economies and the slow reforming economies with respect to the INST indicator.

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<sup>4</sup> LIB stands for a group of indicators which represent the degree of market liberalization and include the degrees of price, trade, forex liberalization, as well as small-scale privatization. The LIB indicator is also interpreted as representing 'first-phase reforms'. The INST indicator comprises factors which represent institutional changes of a market-enhancing nature – with values from 1.0 representing central planning to 4.3 which represents a fully functioning market economy. It is also interpreted as reflecting 'second-phase reforms'. Each annual EBRD Transition Report explains these indices in some detail. Havrylyshyn (2006) discusses how these indicators correlate with economic performance indicators.

<sup>5</sup> The INDEUNIS project looked at the lessons to be learnt from the industrial restructuring experiences of the NMS for a sub-set of NIS economies. See <http://indeunis.wiwi.ac.at/> for the research output from this project. See also the collection of papers in the volume edited by Grinberg, Havlik and Havrylyshyn (2008).

Table 1

**EBRD Transition Progress Index  
for liberalization (LIB) and institutions (INST)**

		1994	1999	2005
Central Europe	LIB	3.7	4.2	4.3
	<b>INST</b>	<b>2.7</b>	<b>3.1</b>	<b>3.3</b>
Baltics	LIB	3.7	4.1	4.3
	<b>INST</b>	<b>2.3</b>	<b>2.9</b>	<b>3.2</b>
Southeast Europe	LIB	3.0	4.0	4.1
	<b>INST</b>	<b>1.7</b>	<b>2.2</b>	<b>2.5</b>
NISM	LIB	2.2	3.7	3.9
	<b>INST</b>	<b>1.4</b>	<b>2.1</b>	<b>2.2</b>
NISL	LIB	1.9	2.0	2.3
	<b>INST</b>	<b>1.4</b>	<b>1.6</b>	<b>1.5</b>

*Source:* EBRD Transition Report, various years. LIB is the average of indicators EBRD describes as 'first-phase reforms' – price, trade, forex liberalization and small-scale privatization; INST is the average of other EBRD indicators. The distinction is analysed in the 2002 Report. NISL comprise NIS countries with very limited reform progress, consisting of Belarus, Turkmenistan and Uzbekistan, and NISM those with moderate reforms, consisting of the remaining NIS countries.

Table 2

**FDI inflow per capita, EUR**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>NMS</b>										
Czech Republic	322	577	526	616	884	183	393	916	467	646
Estonia	369	207	310	442	226	607	574	1675	998	1353
Hungary	291	303	293	430	313	186	359	611	538	403
Latvia	132	136	188	62	115	116	222	247	580	698
Lithuania	232	130	118	143	222	46	181	242	427	418
Poland	147	177	270	167	114	106	274	218	399	337
Slovakia	117	74	387	329	817	356	454	362	617	388
Slovenia	98	50	75	207	863	135	333	236	255	531
<b>CIS</b>										
Azerbaijan	115	60	17	31	180	353	344	161	-56	-410
Armenia	61	35	35	24	36	33	62	60	112	140
Belarus	18	41	13	11	26	15	13	25	29	133
Georgia	53	17	32	28	39	68	92	83	192	273
Kazakhstan	68	100	93	213	184	124	223	105	324	483
Kyrgyzstan	20	9	-1	1	1	8	28	7	28	29
Moldova	18	10	38	32	25	18	34	44	54	94
Russia	16	21	20	21	25	49	86	72	181	69
Tajikistan	.	.	.	.	6	4	33	6	39	41
Turkmenistan	.	.	.	.	16	14	44	52	90	.
Ukraine	13	9	13	18	15	26	29	134	96	156
Uzbekistan	.	.	.	.	3	2	6	3	6	7

*Note:* Negative numbers in this table can occur in case of credit flows.

*Source:* wiiw Database on Foreign Direct Investment (2008), IMF, World Investment Report.

Returning once more to the argument that institutional anchorage and reliability and transparency of contracts might affect patterns of international specialization, let us refer to the volume and (sectoral) pattern of foreign direct investment inflows:

Table 2 gives some information about FDI inflows (per capita) into various NMS and NIS countries. We can see that the inflows have been much lower in the depicted NIS than the NMS. Of course, GDP per capita is also lower in the NIS, but even accounting for that, the FDI flows are significantly lower than in the NMS. Given that many studies (see e.g. Hunya, 2008 and Tables 3a and 3b) have shown that FDI played a vital role in the structural change and upgrading processes, and also in the re-industrialization processes of the NMS and, furthermore, that they shape significantly the productivity growth and exporting activity in the NMS, we can deduce that the lower level of FDI inflows is one of the significant factors explaining the differences in export composition and export growth between the NIS and the NMS.

Table 3a

**Foreign penetration in NMS manufacturing:**

shares of FIEs in employment, sales and exports

	Employment		Sales		Export sales	
	1998	2001	1998	2001	1998	2001
Estonia	20.8	30.8	28.2	36.7	35.2	48.5
Hungary	44.9	45.2	70.0	72.5	85.9	87.9
Poland	26.0	32.9	40.0	52.0	52.3	66.2
Slovakia	18.5	36.4	36.2	59.3	59.0	74.9
Romania	13.7	30.7	24.2	48.9	22.4	23.9

*Size coverage:* Hungary, Romania: all firms; Estonia: firms with more than 100 employees plus firms with more than 20 employees, partially estimated; Poland: firms with more than 5 employees in 1998, with more than 10 employees in 2001. 2001 exports for Romania year 2000 data.

FIE – Foreign Investment Enterprise: companies with at least 10% foreign equity ownership. Hungary 2001: companies with at least 10% foreign equity of at least one foreign owner. Estonia: majority foreign-owned firms.

*Source:* wiiw Database on Foreign Direct investment, relying on national sources.

Table 3b

**Economic performance of FIEs in NIS, 2004**

Share of FIEs in per cent of total, 2004

	Belarus	Moldova	Russia	Ukraine
Number of registered companies	.	.	0.30	1.03
	.	.	.	.
Output	6.85	27.39	19.22	.
Workforce	3.41	3.23	4.25	.
Wage fund	3.54	4.35	7.68	.

*Source:* Statistika SNG, No. 17, September 2005, p. 41 and CIS Statistical Yearbook 2005.

FDI flows (with some exceptions) were hence rather low in the NIS as compared to the NMS countries. We would argue that trust in contractual agreements (supported either through an anchorage in domestic sustained reform processes and/or in international institutional structures such as the EU or the WTO) can be an important explanatory factor to account for differences in FDI flows to particular countries. Furthermore, we would also claim that the *pattern of FDI across sectors* will be affected by such institutional characteristics. The argument here relies again on the degree of substitutability of one international location of international investment compared to another with regard to various location characteristics and the particular type of activity or industry. Locational characteristics include factors such as size of the market, geographic position and infrastructure affecting the ease of international production linkages and market access, but also, quite prominently, the reliability of contractual relationships. The degree of locational substitutability is influenced by all of these locational factors and the characteristics of the industries or sectors, in particular whether they rely on scarce natural resource inputs and other inputs that have to be provided locally (qualifications of the workforce, supplier networks, etc.). As the substitutability issue depends *inter alia* on the availability of scarce natural resource inputs we can easily see that the sectoral pattern of FDI will be affected by the institutional factors emphasized above and the availability of natural resources. Once the sectoral pattern of FDI has been determined through this interaction, FDI itself deepens and entrenches certain specialization patterns (through the learning effects it induces in the sectors that attract FDI as well as the build-up of supplier networks and the lack of such learning effects in other sectors that are ignored by foreign investors).

There are of course other factors as well that play a role in the rather small presence of FDI in NIS countries: the longer period to recover from the initial transition crisis, the lower levels of income that restrict the market for more sophisticated consumer goods (in which MNCs have a comparative advantage), the protracted period of de-industrialization that in turn restricts the market for sophisticated intermediate inputs and machinery, the geographic location, etc.

Nonetheless there are FDI inflows into these markets for a number of reasons: firstly, foreign direct investment is forward-looking and hence is interested not only in the current market size but also in 'market potential' (of the domestic market but also of the 'regional markets' which can be supplied from this base), i.e. future market growth. Secondly, locational advantages and disadvantages of international production facilities change over time: for instance, it is quite clear that the CEECs have become less attractive as locations for highly labour-intensive activities seeking the advantage of low wage costs. Thirdly, there is a typical pattern across all transition economies of plugging important gaps in the supply structures of these economies: such gaps are particularly evident in the areas of services (first of all business and financial services) and also in certain areas in which technological knowledge is vital to provide the types of (internationally quite standardized)

services which consumers demand (such as in telecommunications). All these are areas where the ability of domestic producers to compete with international firms is rather low and hence international suppliers or MNCs traditionally reap high profits.

Amongst other issues related to the difference in the reform processes in the NMS and the NIS, the 'political economy of resource-rich countries' has been well researched. Rent seeking and rent absorption by political elites is much easier when control over a natural resource base can be obtained than with other types of economic activities. Of course, there could also be forms of control that would matter in other types of activities: for instance, privileged access to import licences or to scarce foreign exchange or to public procurement contracts. But all these routes of rent seeking become challenged when there is a general move towards a higher degree of market liberalization, the build-up of foreign exchange reserves and trade liberalization, as has been happening in all transition economies. However, the possibility to control raw material sites and access to scarce infrastructure (pipelines, transport routes, etc.) remains. Hence the sheer existence of a rich raw material resource base allows an elite to keep control over an important area in which rent seeking and rent absorption can persist even under conditions of international liberalization. The 'resource curse' in transition economies derives mostly from this source and not so much from Dutch Disease issues, which have been judged by e.g. Roland (2002) as being less of an issue in the case of e.g. Russia.<sup>6</sup>

### **2.3 Differences in economic and trading structures**

Notwithstanding the heterogeneity within each group of countries, it is clear that there were important differences in economic structure between the NMS and the NIS already at the starting point of the transition in 1989, and the general assessment is that such differences have grown rather than diminished over time.

Let us look at some of the evidence for this.

Figures 1a and 1b show the developments in GDP and in industrial production from 1989/90 in the NMS and NIS economies (more detailed country-specific information can be obtained from Annex Tables A.1 and A.2).

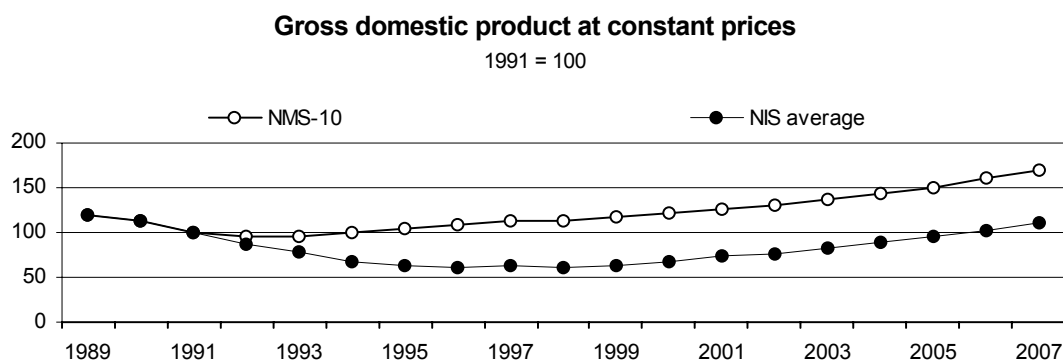
It is clear that GDP recovered earlier and industrial production was less severely affected by the 'transformational recessions' and follow-up crises in the NMS as compared to the NIS economies. In particular, the contraction of industrial production has had long-lasting – and some might say 'irreversible' – effects on the longer-run structure of production and

---

<sup>6</sup> Roland finds that in Russia through the use of various government funds and relatively sound fiscal and monetary policy (including the pay-back of large amounts of international debt) the Dutch Disease phenomenon has – according to him – not been a big issue in spite of ballooning oil and gas revenues.

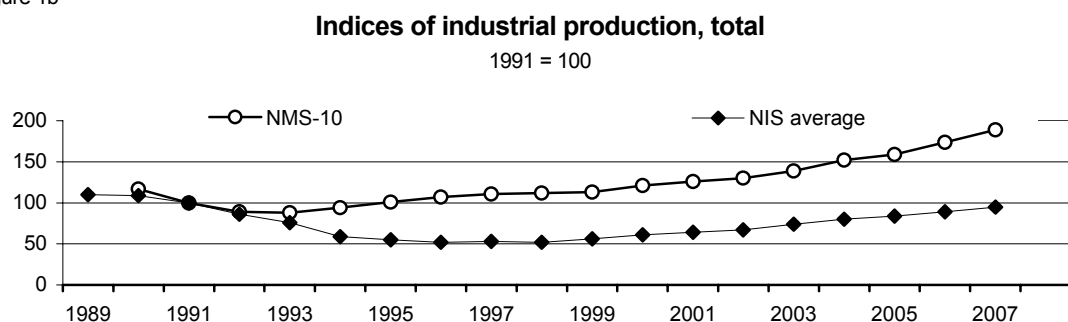
trade specialization. (A similar phenomenon could be observed in the Western Balkan region, which went through the conflict period following the disintegration of ex-Yugoslavia.) The impact of the turbulent phases of the disintegration of the Soviet Union together with the much more drawn-out (and less completed) process of market reform has left its mark on production and trading structures of the NIS economies even once they embarked on a phase of recovery from about 2000 onwards. We should keep the legacy of this deep process of ‘deindustrialization’ together with the lower levels of FDI activity in the NIS in mind when we examine the differences in the structures of trade specialization between the NMS and the NIS economies in the following.<sup>7</sup> Most of the NMS, on the other hand, went through a significant process of ‘reindustrialization’ from the mid-1990s leading to a level, and a degree of diversification, of industrial production which substantially exceeded that before transition. Some of the NMS economies are now considered important industrial production locations within the intra-European division of labour.

Figure 1a



Note: 1989-1990 USSR, National Income.

Figure 1b



Note: 1989-1990 USSR.

Source: Interstate Statistical Committee of the CIS, *wiiv*.

<sup>7</sup> Apart from the more severe impact of the disintegration of the Soviet Union on the production structures of the NIS compared to the impact of the dissolution of the CMEA on the NMS, one would have to mention a number of other historical factors which account for the different responses of the two sets of economies to the strains of the transition process, such as the much longer Communist experience in the NIS and the relative lack of experience with a market economy prior to that.



### 2.3.1 Market orientation

In characterizing trade specialization of NMS and NIS economies, we should start with the significant differences in market orientation. As is well known, the NMS economies are heavily oriented in their trade links (both exports and imports) towards the European Union markets. Table 4 shows that the NMS (except for the Baltic states) sell between 50% and 70% of their exports to the EU-15 and another 10% to 25% to NMS, and only about 15% to 35% to the Rest of the World (including the NIS). Hence the NMS are, in their trade orientation, very strongly oriented towards the EU market which dominates their exporting activity and this affects the overall production composition which lies behind the trade activities of these highly open and small market economies. There is also a high degree of intra-industry trade that characterizes trade of the NMS with the other EU member countries. In contrast, the NIS are selling between 15% and 55% to the enlarged EU-25 and a higher percentage to other markets (between 10% and 50% to other NIS markets and between 15% and 50% to the RoW; the export structure of the NIS is hence relatively balanced between these three types of markets). To conclude: the EU is a significant market for the NIS but far from being as dominant as for the NMS.

Table 4

Year	Regional composition of NIS exports (in % of total)								
	2000			2004			2006		
	EU25	CIS	ROW	EU25	CIS	ROW	EU25	CIS	ROW
Armenia	37.0	23.0	39.9	35.6	16.3	48.1	46.8	19.7	33.5
Azerbaijan	63.1	13.5	23.4	50.9	17.0	32.1	55.8	14.6	29.6
Belarus	28.0	60.1	11.9	36.7	53.1	10.3	45.5	43.6	10.8
Georgia	23.7	39.8	36.5	17.2	50.7	32.1	18.9	39.8	41.3
Kazakhstan	25.3	26.1	48.7	34.9	20.2	44.9	43.2	14.6	42.2
Kyrgyzstan	37.2	41.1	21.7	3.9	38.3	57.8	4.0	47.7	48.3
Moldova	26.4	58.5	15.2	30.1	51.0	18.9	35.0	40.3	24.7
Russia	52.8	13.4	33.7	50.4	16.2	33.4	56.6	14.0	29.3
Tajikistan	35.2	54.0	10.8	.	.	.	.	.	.
Turkmenistan	18.9	52.4	28.6	.	.	.	.	.	.
Ukraine	29.4	30.7	40.0	29.7	26.0	44.3	28.3	33.0	38.7

Source: WITS, UN COMTRADE.

Year	Regional composition of NMS exports (in % of total)								
	2000			2004			2006		
	EU15	NMS-8	ROW	EU15	NMS-8	ROW	EU15	NMS-8	ROW
Czech Republic	68.6	16.4	15.0	68.1	17.5	14.4	64.5	17.9	17.5
Estonia	68.5	11.8	19.7	62.3	17.2	20.5	47.6	17.0	35.3
Hungary	75.2	6.2	18.7	70.7	8.6	20.6	57.6	11.8	30.6
Latvia	64.6	16.0	19.4	52.0	20.6	27.3	43.4	31.3	25.3
Lithuania	47.9	24.1	28.1	45.5	21.2	33.3	38.0	25.1	36.9
Poland	69.4	9.9	20.7	67.4	11.7	21.0	62.7	13.4	23.8
Slovak Republic	59.1	29.4	11.5	59.7	25.5	14.8	57.8	27.2	15.0
Slovenia	63.9	7.4	28.7	58.2	8.3	33.5	59.1	9.7	31.2

Source: WITS, UN COMTRADE.

### 2.3.2 Concentration of exports

Tables 5a and 5b (more detailed information can be obtained from Annex Tables A.6-A.8) present some information about the concentration of goods exports, a very well known but also very striking phenomenon clearly demonstrating an important difference of trade structures between the NMS and the NIS countries.

Table 5a shows the shares of the top 3, 10 and 15 industries (at the 3-digit NACE level) in exports to the EU-25 in 2004-2006 of both the NMS and the NIS countries: what we see is a striking difference in the concentration of the export structure towards very few products (defined at the NACE 3-digit industry level) of the NIS countries.

Table 5a

#### Export structure – shares of top 3, 10, 15 industries (%), 2004-2006

##### NMS: Exports to EU-25

##### NMS

	BGR	CZE	EST	HUN	LVA	LTU	POL	ROM	SVL	SVN
<b>Top 3</b>	44.7	25.7	29.7	35.5	52.3	40.6	26.9	37.2	28.9	28.6
<b>Top 10</b>	65.3	49.3	57.2	59.4	69.8	63.5	49.6	61.7	56.1	55.0
<b>Top 15</b>	72.7	61.5	66.7	68.9	76.3	71.4	60.0	71.4	67.0	66.7

##### NIS: Exports to EU-25

##### NIS

	ARM	AZE	BLR	GEO	KGZ	KAZ	MDA	RUS	TJK	TKM	UKR	UZ
<b>Top 3</b>	75.4	82.4	66.9	68.9	42.7	80.9	58.2	70.3	88.7	90.9	43.7	79.2
<b>Top 10</b>	99.0	94.4	83.3	92.8	84.0	97.8	89.2	91.1	99.7	98.5	74.5	97.3
<b>Top 15</b>	99.4	97.0	88.5	96.3	92.5	98.9	94.0	94.0	99.9	99.6	80.4	98.7

##### NIS: Total exports, 2006

##### NIS

	ARM	AZE	BLR	GEO	KAZ	MDA	RUS	TJK 2000	TKM 2000	UKR
<b>Top 3</b>	48,1	86,5	43,7	24,4	71,7	29,4	60,9	78,9	79,8	28,7
<b>Top 10</b>	76,7	92,8	58,1	62,7	83,7	53,5	80,0	95,2	96,1	50,8
<b>Top 15</b>	86,2	94,7	64,7	77,5	89,3	63,6	84,8	97,8	97,9	57,6

Source: WITS Database; own calculations.

If we take the shares of the 3 top exported commodities to the EU-25, we find that these account for about 25% (Czech Republic) to 50% (Latvia) of the NMS exports to the EU-25. For the NIS the percentages are respectively: 43 (Ukraine) to 90 (Turkmenistan); for Russia the number is 73. Taking the top 15 industries (out of a total of 95) these account for 60-75% of NMS exports to the EU-25 and 80% (Ukraine) to nearly 100% for the NIS. Considering NIS total exports we see a somewhat lower concentration, a point we shall return to later.

Another measure of concentration is the Herfindahl-Hirschman (HH) index. The HH index is depicted in Table 5b. It shows again a significant difference between the NMS and the NIS as regards the degree of concentration of their exports to the EU-25 region. Differences in the features of export concentration and trade specialization in relation to other markets than the EU-25 market will be discussed later on in the paper (see section 2.4).

Table 5b

<b>Herfindahl-Hirschmann Index – Measure of concentration</b>							
Exports to EU-25							
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>BG</b>	0.323	0.320	0.300	0.292	0.290	0.281	0.292
<b>CZ</b>	0.184	0.180	0.183	0.183	0.184	0.196	0.204
<b>EE</b>	0.305	0.235	0.216	0.201	0.211	0.227	0.244
<b>HU</b>	0.246	0.243	0.237	0.236	0.251	0.248	0.245
<b>LV</b>	0.350	0.320	0.313	0.319	0.355	0.394	0.355
<b>LT</b>	0.268	0.303	0.280	0.253	0.298	0.306	0.284
<b>PL</b>	0.201	0.196	0.192	0.198	0.206	0.193	0.200
<b>RO</b>	0.331	0.343	0.342	0.321	0.292	0.269	0.247
<b>SK</b>	0.211	0.210	0.246	0.269	0.246	0.208	0.214
<b>SI</b>	0.197	0.197	0.204	0.196	0.213	0.234	0.224
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>AM</b>	0.695	0.532	0.629	0.680	0.484	0.538	0.535
<b>AZ</b>	0.860	0.807	0.844	0.660	0.693	0.625	0.639
<b>BY</b>	0.295	0.292	0.308	0.397	0.487	0.579	0.610
<b>GE</b>	0.437	0.425	0.461	0.549	0.420	0.472	0.598
<b>KG</b>	0.958	0.930	0.702	0.546	0.440	0.344	0.347
<b>KZ</b>	0.547	0.585	0.548	0.469	0.456	0.515	0.587
<b>MD</b>	0.415	0.432	0.401	0.379	0.439	0.375	0.372
<b>RU</b>	0.433	0.424	0.431	0.432	0.427	0.480	0.509
<b>TJ</b>	0.604	0.797	0.869	0.848	0.760	0.526	0.877
<b>TM</b>	0.797	0.768	0.806	0.868	0.823	0.827	0.858
<b>UA</b>	0.293	0.293	0.290	0.266	0.338	0.317	0.320
<b>UZ</b>	0.616	0.729	0.859	0.755	0.746	0.622	0.500

*Note:* The Herfindahl-Hirschman Index is calculated as the sum of the squares of the shares (in total exports to the EU-25 markets) of individual industries and then the square root is taken. The measure is bounded by 0.0 and 1.0.

### 2.3.3 Commodity composition of exports

We now move to discuss the commodity composition of exports and also the specialization structures (including exports and imports) of NMS and NIS both by looking at commodity composition *per se* and at commodities (or industries) classified by means of different taxonomies (identified by factor content and by skill content; see below).

Let us start with the broad commodity composition:

Figures 2.1 and 2.2 present the export structures of the NIS and the NMS by broad commodity groups (agriculture including food processing, minerals and metals, fuels including petroleum products, and manufacturing). We shall distinguish exports to the EU-25 markets as well as exports to the Rest of the World. As regards exports to the EU-25, we see a distinct difference in export composition between two groups of NIS economies as well as between the NIS countries and the NMS: One group of NIS (composed of Azerbaijan, Belarus, Kazakhstan, Russia, Tajikistan and Turkmenistan) has a predominant export specialization towards fuels (including petroleum products) and minerals and metals (unprocessed). This group shows a very small share of manufacturing products in its exports<sup>8</sup>, although the share increases somewhat when non-EU-25 exports are considered; for the difference in the commodity composition of exports between exports to the EU-25, to other NIS countries and to the Rest of the World, see Annex Figures A.5. The second group of NIS countries (comprising Armenia, Georgia, Kyrgyzstan, Moldova and Ukraine) shows a larger share of manufactured products (as we shall see below, a substantial share of these countries' exports are metals-related) and a significant group has a large share of agricultural or food-processing exports. Petroleum products also feature in some of these economies but not to the same extent as for the first group.

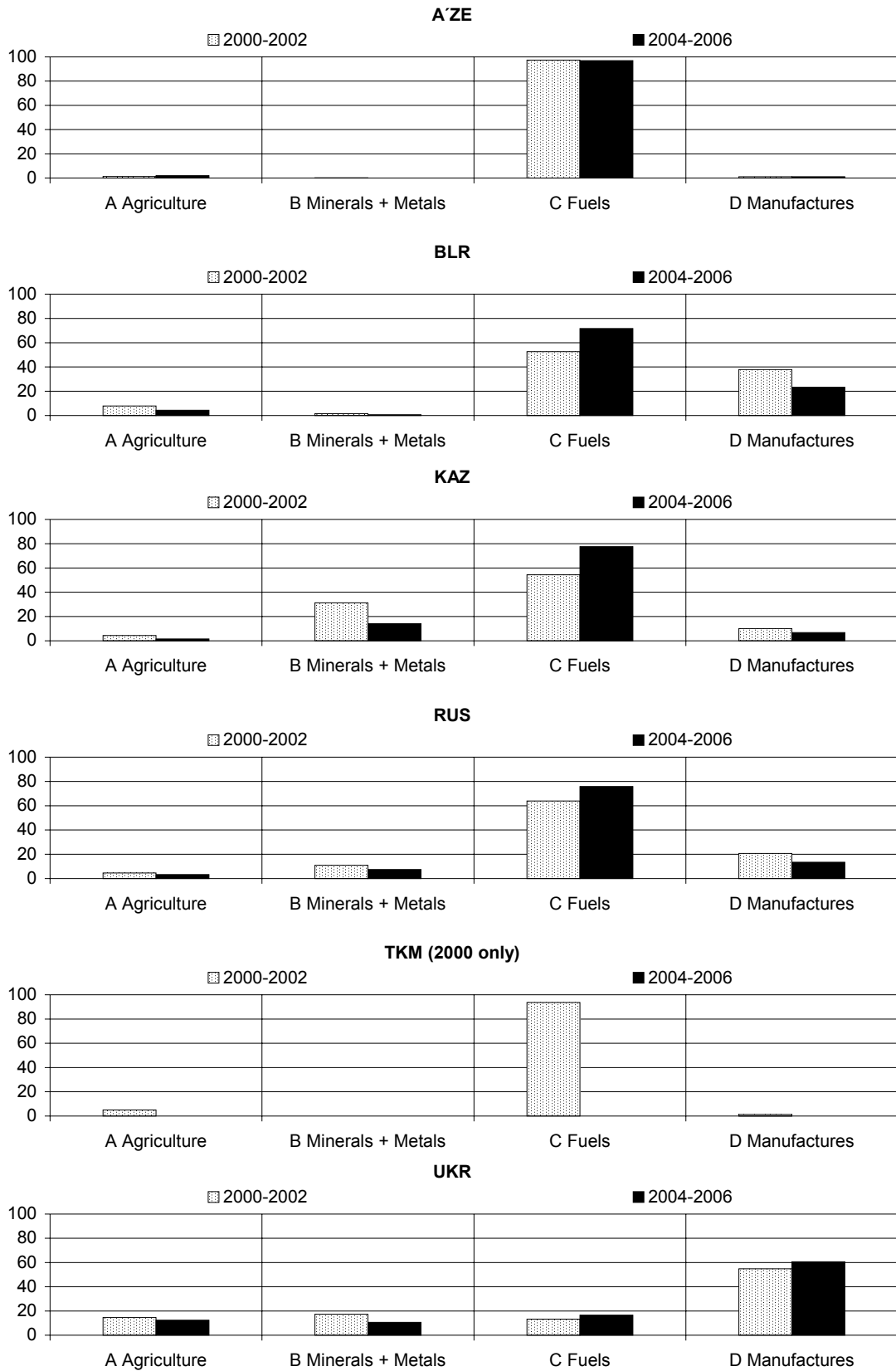
For the NMS, by contrast, manufacturing exports are by far the dominant share in total exports and the difference in this respect to both groups of CIS economies are quite striking.

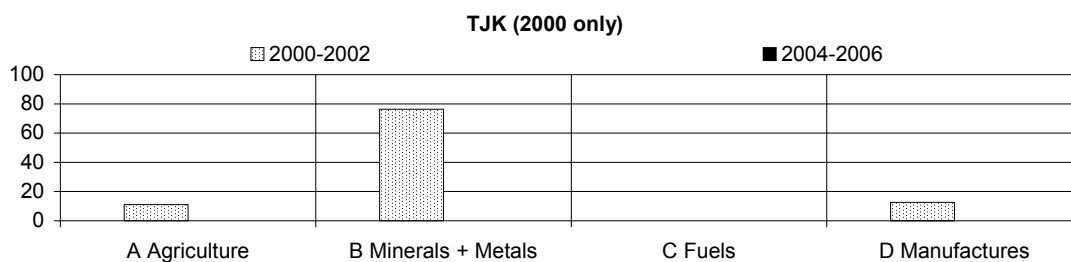
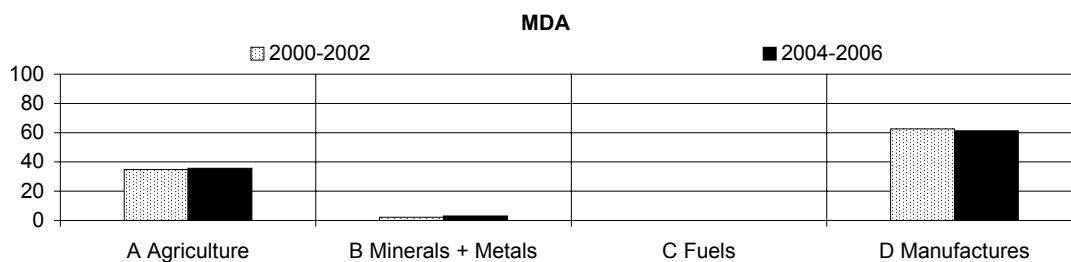
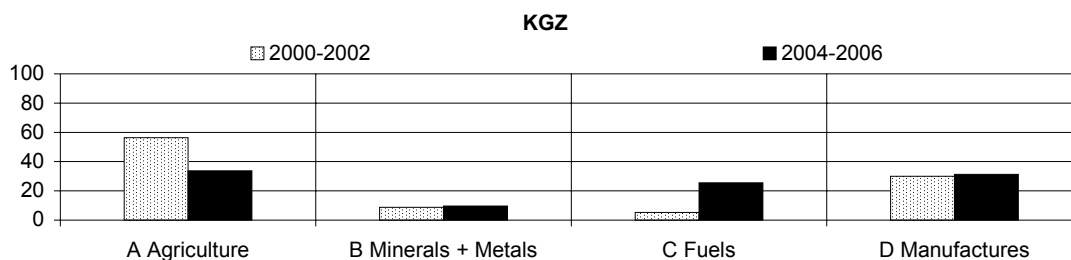
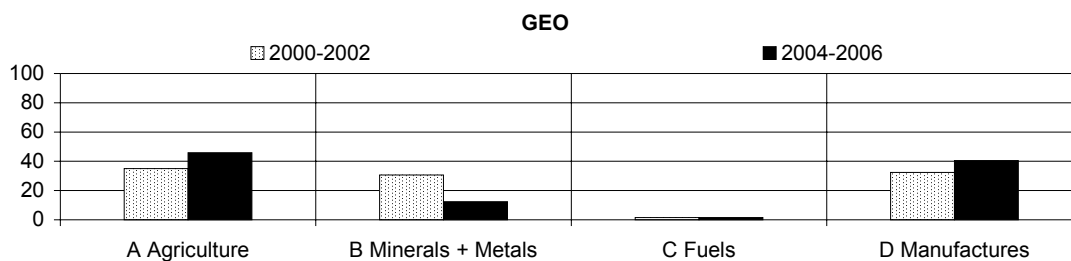
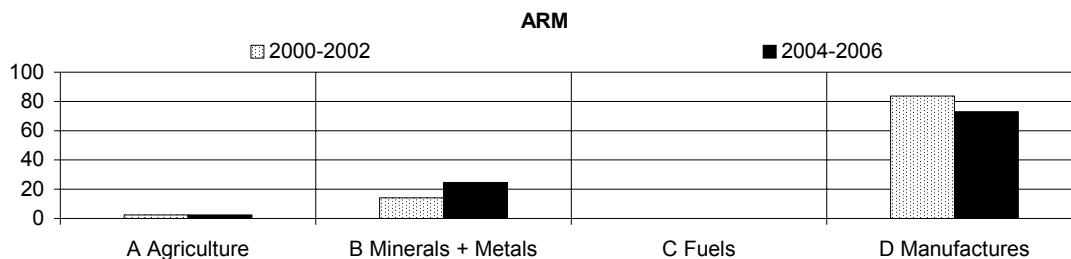
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<sup>8</sup> Belarus is an exception in that it exports a large share of manufactures to other – mostly NIS – markets while more than half of its exports to the EU-25 consists of petroleum products; for details on the commodity composition see Annex Tables A.7 and A.8.

Figure 2.1

**Export structure, NIS countries  
Commodity trade with EU-25**



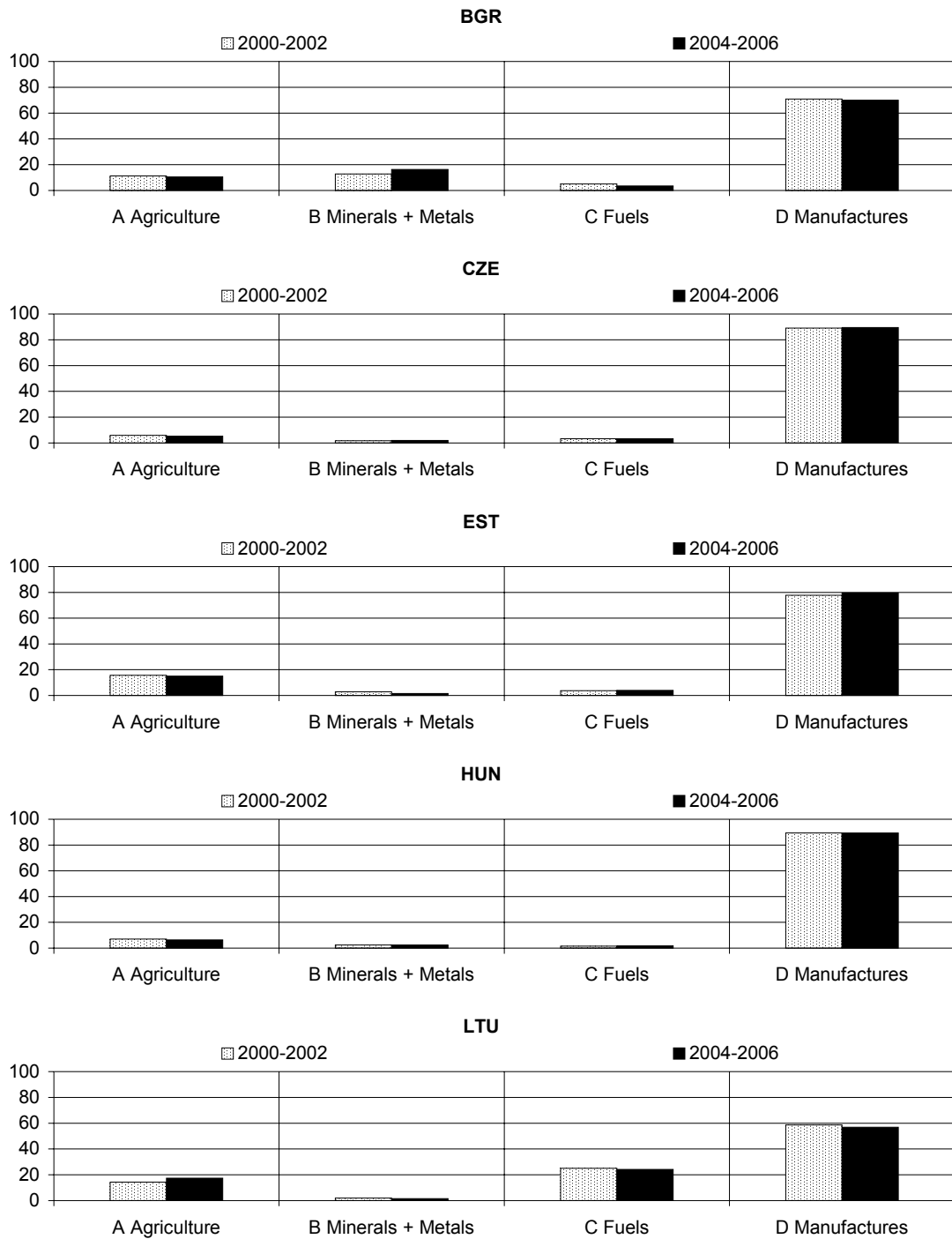


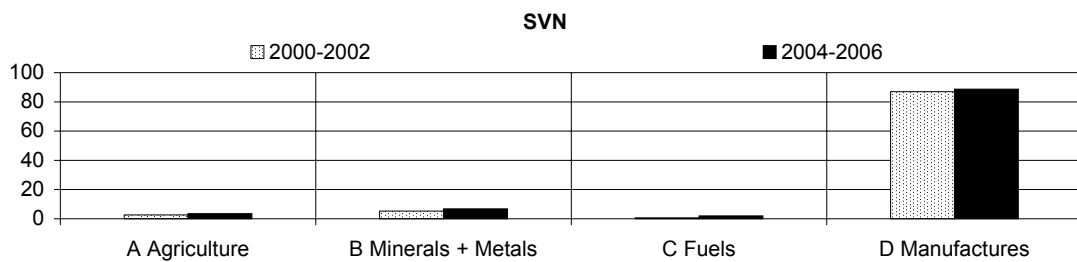
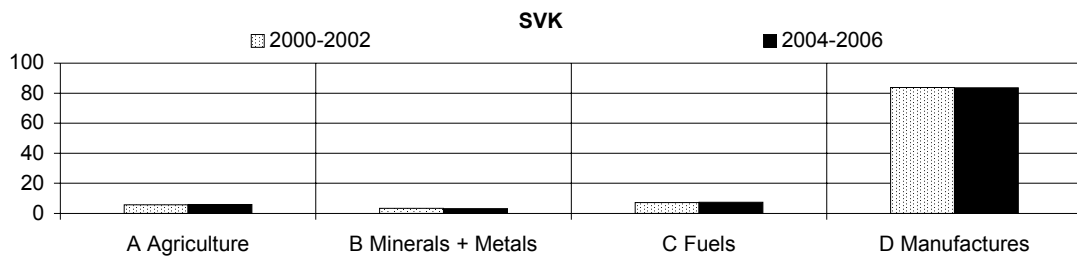
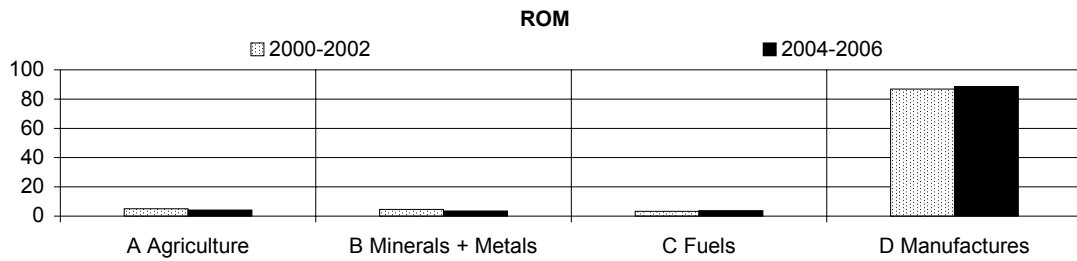
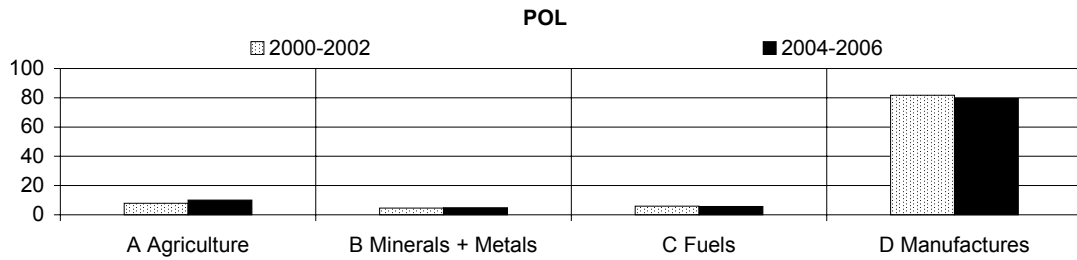
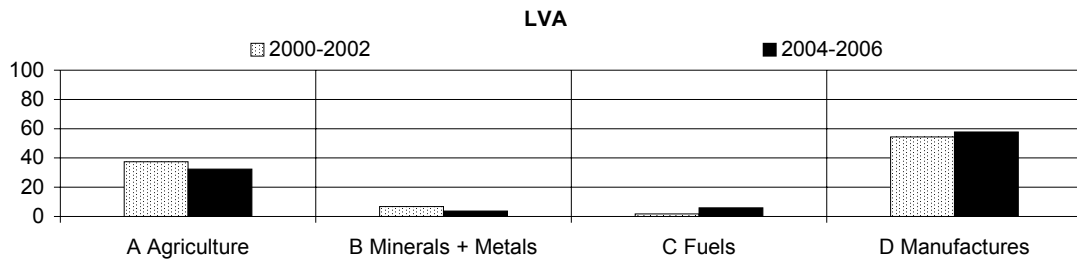
**Legend:** ARM: Armenia, AZE: Azerbaijan, BLR: Belarus, GEO: Georgia, KAZ: Kazakhstan, KGZ: Kyrgyzstan, RUS: Russia, TJK: Tajikistan, TKM: Turkmenistan, UKR: Ukraine  
 1 = period 2000-02; 2 = period 2004-06 (averages)

**Source:** WITS database, wiiw calculations.

Figure 2.2

### Export structure, NMS-10 countries Commodity trade with EU-25





1 = period 2000-02; 2 = period 2004-06 (averages)

Source: WITS database, wiiw calculations.

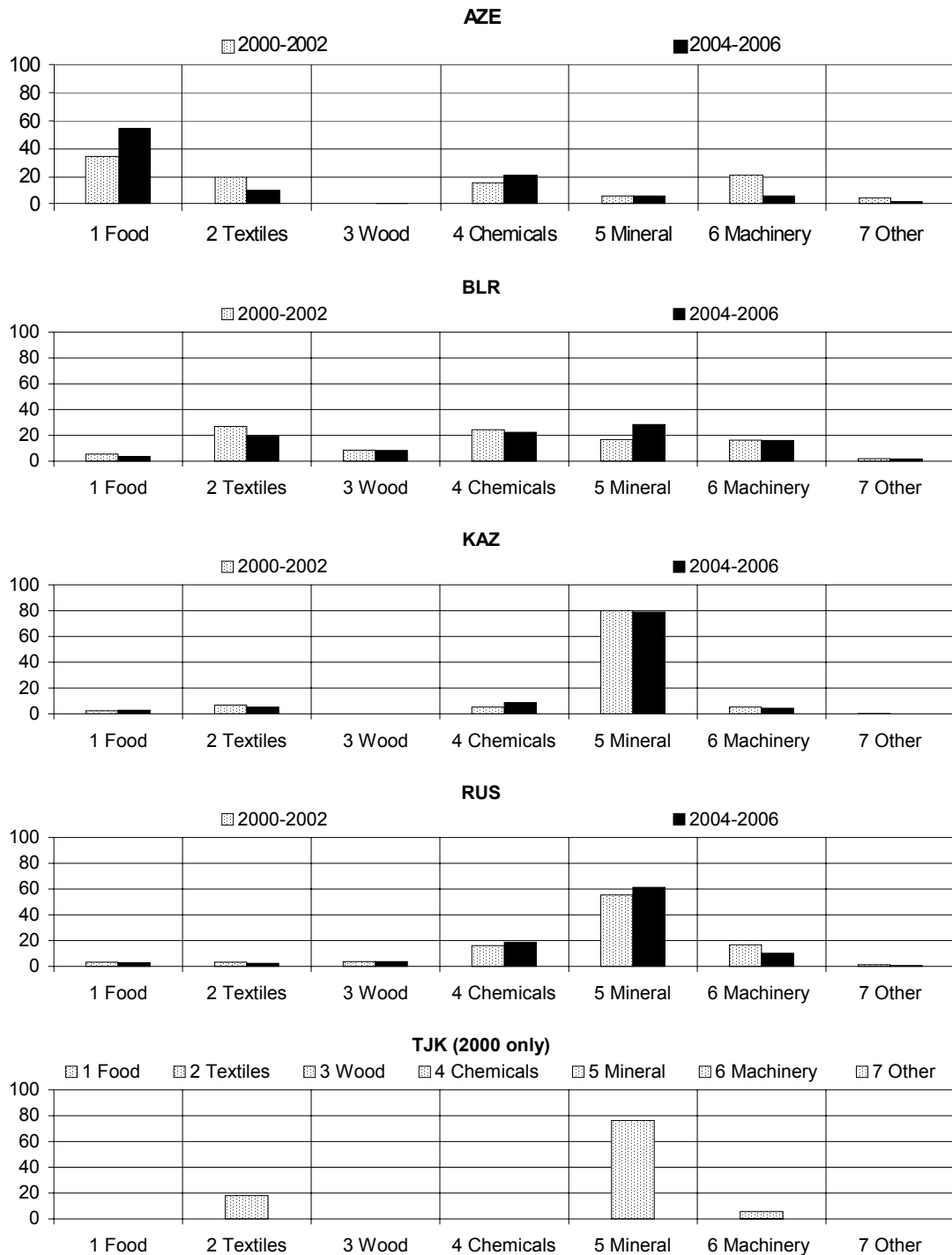


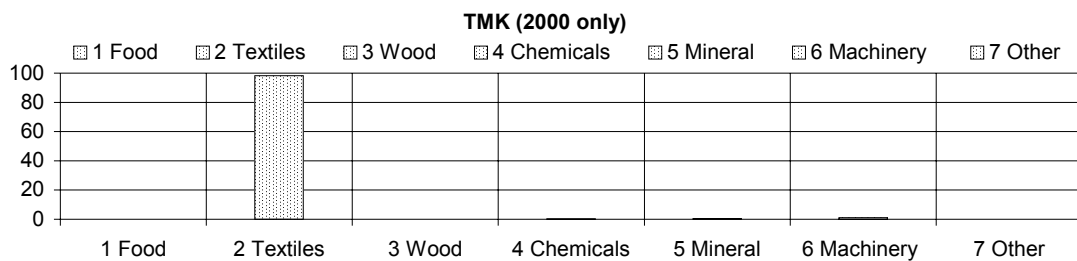
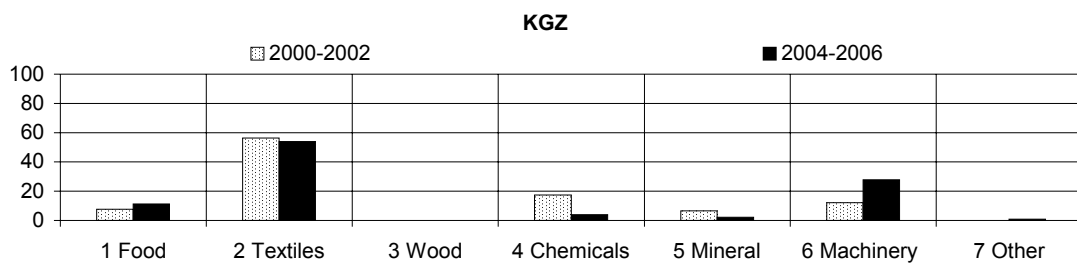
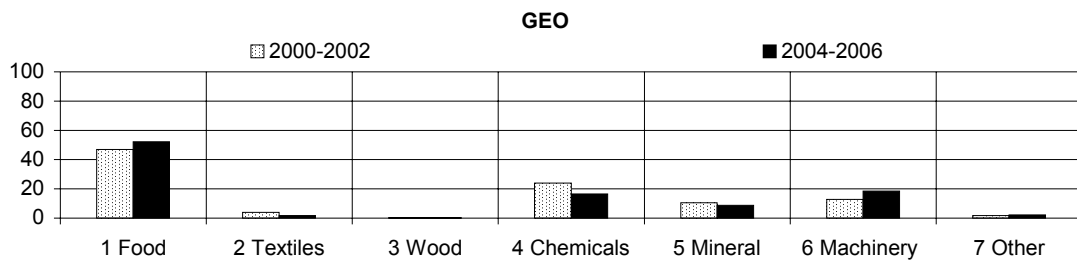
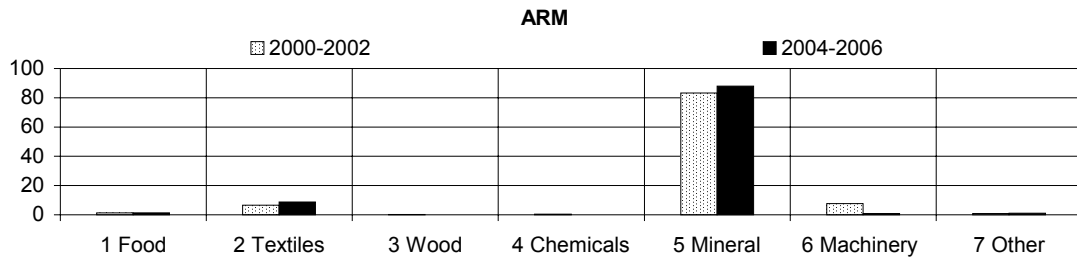
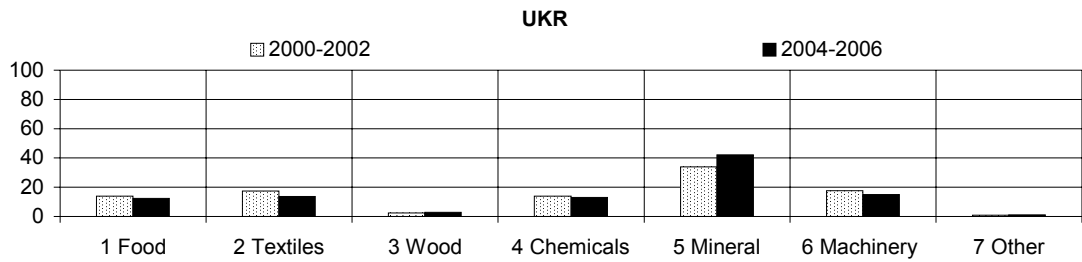
Let us add now some more details on commodity composition within manufacturing:

Figures 3.1 and 3.2 present details with respect to the export structure within manufacturing products. Annex Figures A.3 and A.4 give additional information on trade specialization by means of 'revealed comparative advantage' (RCA) indicators. As regards trade with the EU-25 we can see a strong specialization of NIS export structures towards three items: mineral and metal products, food (includes drinks and tobacco), and textiles (includes clothing and footwear). As regards the NMS, we can see a strong orientation of the more advanced of the NMS economies (Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia) towards machinery, electrical goods and transport equipment, while the less advanced group (Lithuania, Latvia, Bulgaria and Romania) has also a significant export share of textiles (including clothing and footwear) and foods (including drinks). The RCA indicators (which consider both exports and imports; see Annex Figures A.3 and A.4 ) reinforce this picture of trade specialization.

Figure 3.1

**Export structure in manufacturing , NIS countries**  
**Exports to EU-25**

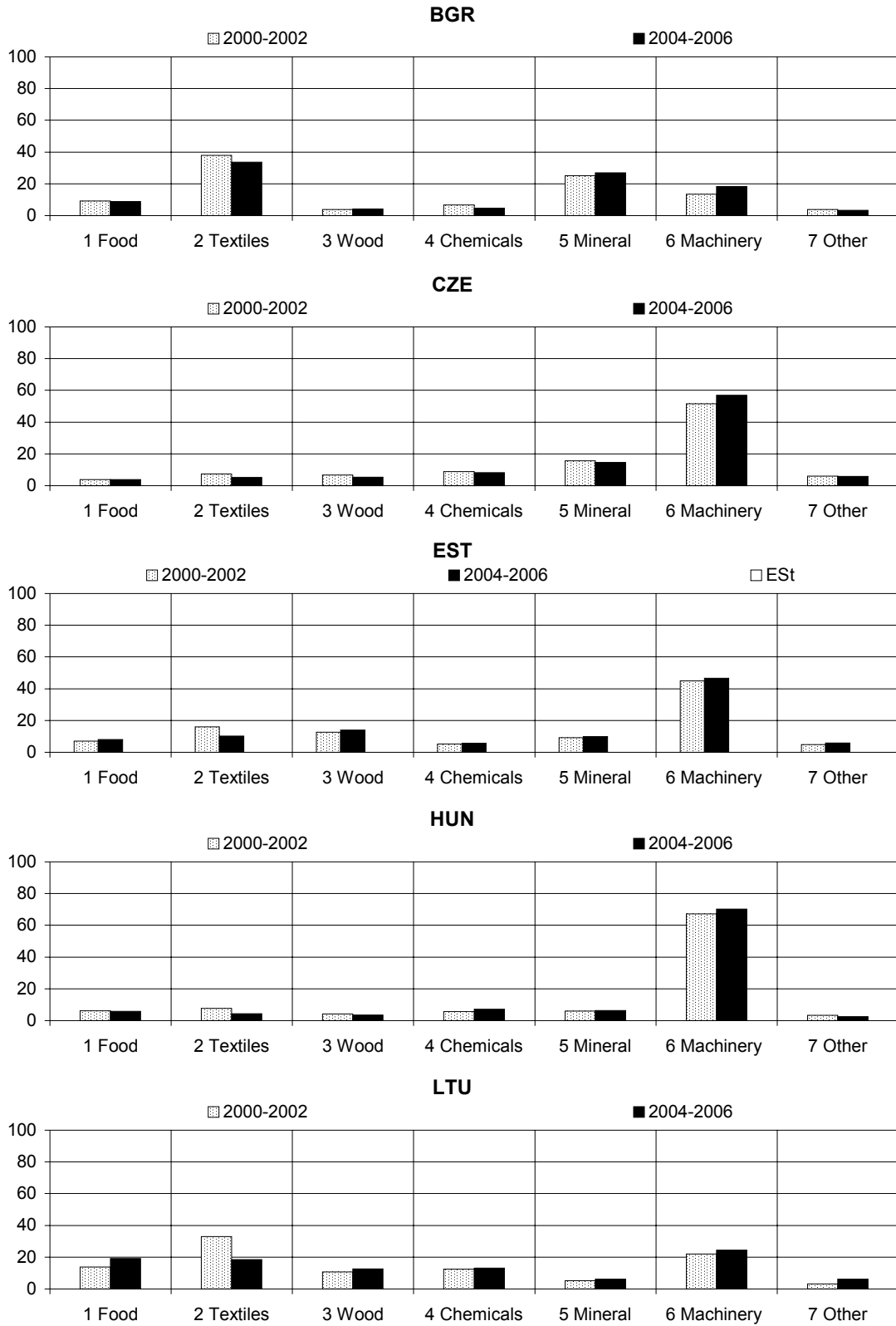


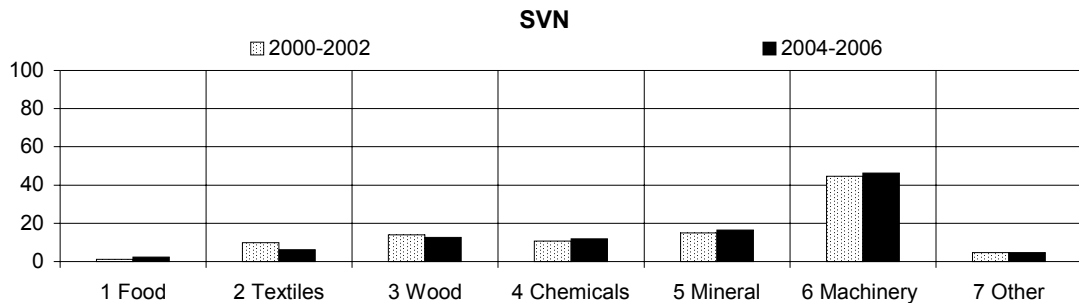
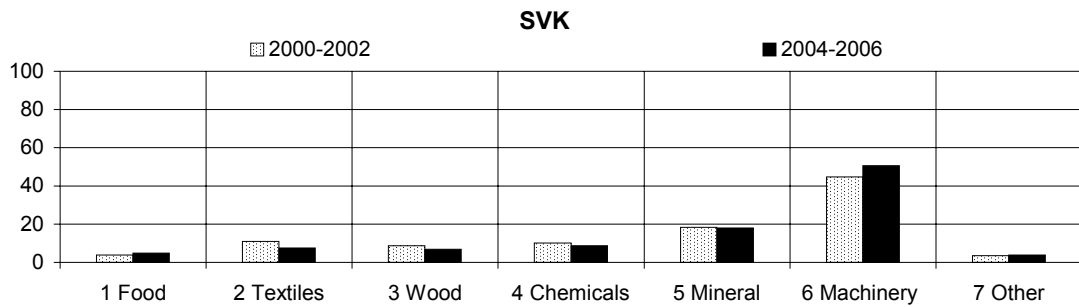
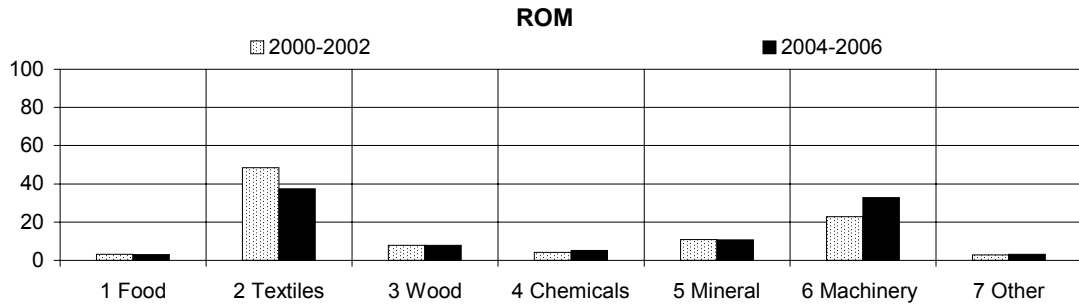
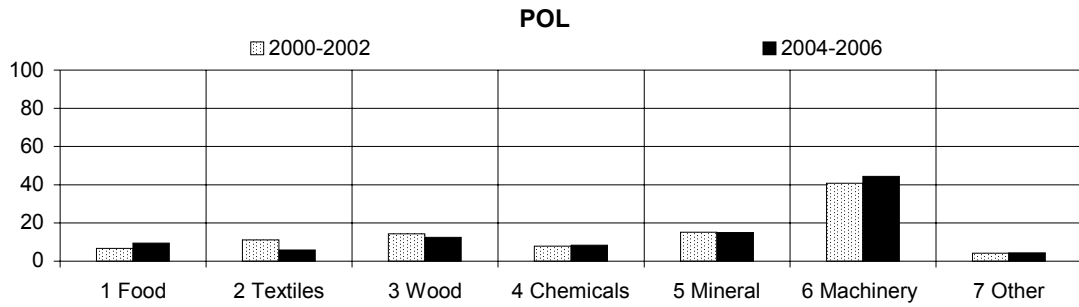
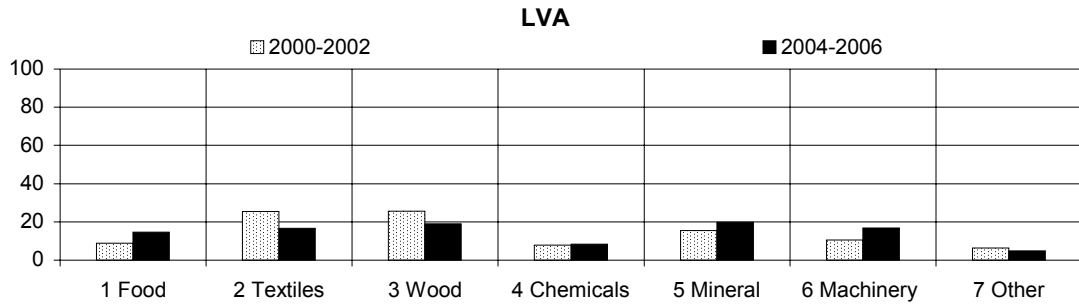


Legend: ARM: Armenia, AZE: Azerbaijan, BLR: Belarus, GEO: Georgia, KAZ: Kazakhstan, KGZ: Kyrgyzstan, RUS: Russia, TJK: Tajikistan, TKM: Turkmenistan, UKR: Ukraine. Source: WITS database, wiiw calculations.

Figure 3.2

**Export structure in manufacturing, NMS-10 countries  
Exports to EU-25**





**Legend:** 0 Total, 1 Food, 2 Text/Clothing/Leather/Footwear, 3 Wood/Pulp/Paper, 4 Chemicals and Rubber, 5 Mineral and metal products, 6 Machinery/Electrical equip./Transport equip., 7 Other

**Source:** WITS database, wiiw calculations.

We now move towards an examination of trade structures using two different types of industry classifications (see Annex Table A.5 for details on the classifications used):

The differences in trade structures between NMS and NIS are quite striking (see Figures 4.1-4.4): it is clear that the NMS have a much more balanced structure with respect to the two types of taxonomies we have been adopting to classify industrial trade by either factor content (into capital-, labour- or technology-intensive groups of industries; taxonomy I) or by implicit skill intensity (i.e. whether the production requires relatively more low-, medium- or high-skilled workers; taxonomy II).<sup>9</sup>

The difference comes out quite strikingly if we look at RCAs (revealed comparative advantage indicators<sup>10</sup>). Here we see that the NIS have almost uniformly strong relative surpluses in capital-intensive industries and a few countries (Armenia, Moldova, Turkmenistan) in labour-intensive industries and strong deficits in technology-intensive industries.<sup>11</sup>

The NMS, on the other hand, reveal surpluses in labour-intensive industries and some countries (Bulgaria, Slovakia, Slovenia and the Baltics) also in capital-intensive industries, but the latter surpluses are much less pronounced than those of the NIS. They also show much milder deficits (with Hungary being the exception showing a surplus) in technology-driven industries than the NIS economies.

If we take the skill-based taxonomy, the basic difference between the two sets of countries is the deficit in almost all NIS countries in industries with a relatively high share of medium-skill jobs, where the NMS have a surplus (with the exception of Bulgaria and Romania; these two economies have surpluses in industries with low skill content). The deficit in industries with the highest skill content exists for both groups of countries and quite a few of the NIS economies have – like Bulgaria and Romania amongst the NMS – surpluses in low-skill-intensive industries (Armenia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Ukraine and Uzbekistan).

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<sup>9</sup> See Annex Table A.5 for the taxonomies used.

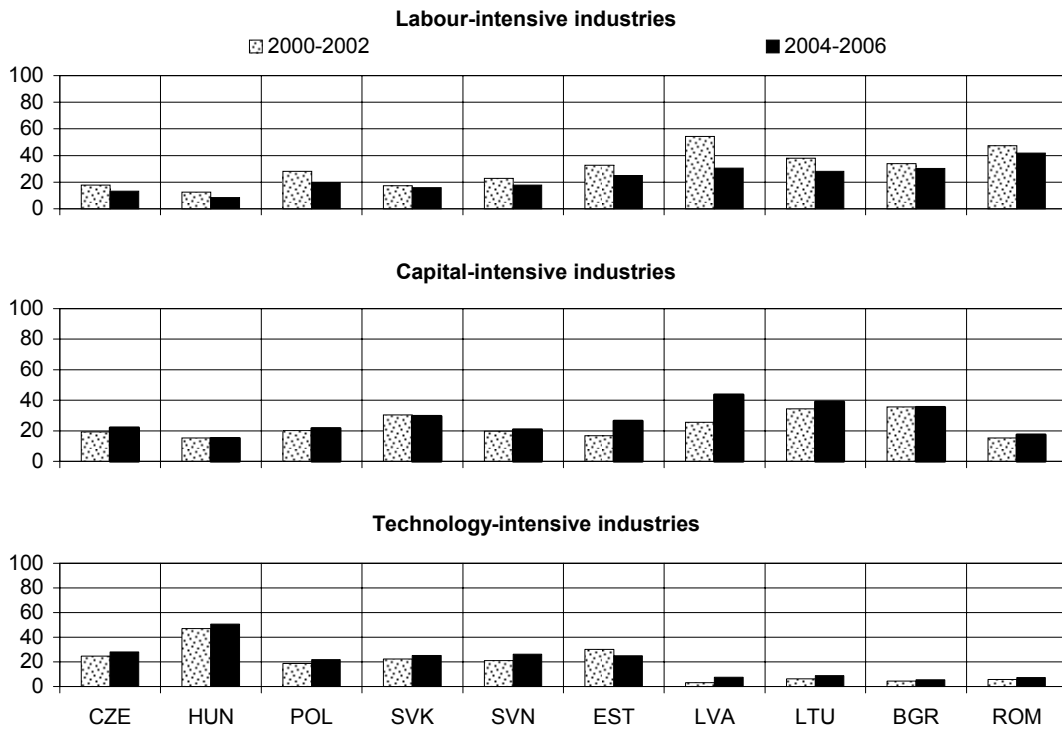
<sup>10</sup> The RCA indicator used here is the following one:  $RCA_i = \ln(x_i / m_i) / \ln(x_T / m_T)$  where  $x_i$  and  $m_i$  refer to exports and imports respectively of industry  $i$  and  $x_T$  and  $m_T$  refer to total (goods) exports and imports of the country in question. These RCAs can also be calculated for trade relationships with particular groups of trading partners, such as the EU-25, or with other NIS countries in which case the  $x_T$  and  $m_T$  refer to total goods trade (exports and imports respectively) by that country into that region. This has also been done in order to check whether there are important differences in comparative advantage structures in relation to different groups of trading partners.

<sup>11</sup> A classification of industries into 5 groups using taxonomy I is reported in Annex Table A.5. Figures 4.1 and 4.3 report only the results regarding 3 of the 5 groups as these reveal the strongest differences between the NMS and NIS pattern of trade specialization. The two groups of industries we do not report refer to 'marketing-driven' industries, which are those that have (in OECD countries) a rather high share of expenditure on marketing, and a group of 'mainstream' industries, which is a residual category, oriented more towards consumer goods as are also the 'marketing-driven' industries. The technology-intensive group is characterized by relatively high spending on R&D. The classifications used for these taxonomies have been compiled by M. Peneder by means of factor analytic methods. See Peneder (2003).

Figure 4.1

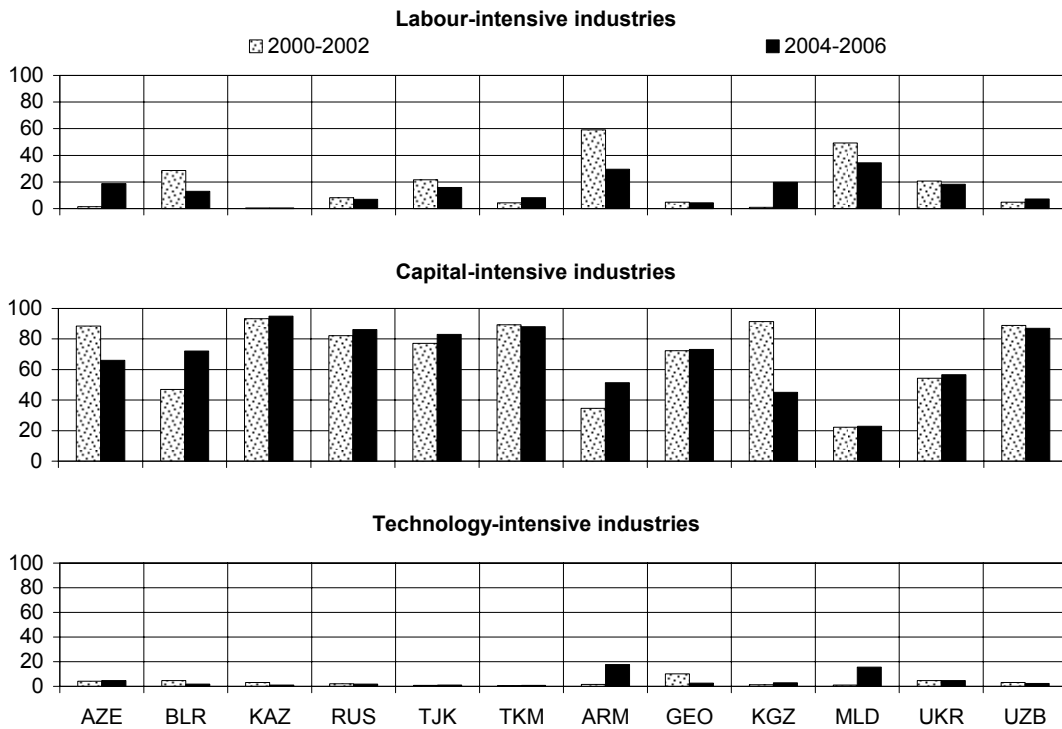
### Exports of NMS to EU-25, 2000-02, 2004-06

by industry groupings, average shares



### Exports of NIS to EU-25, 2000-02, 2004-06

by industry groupings, average shares

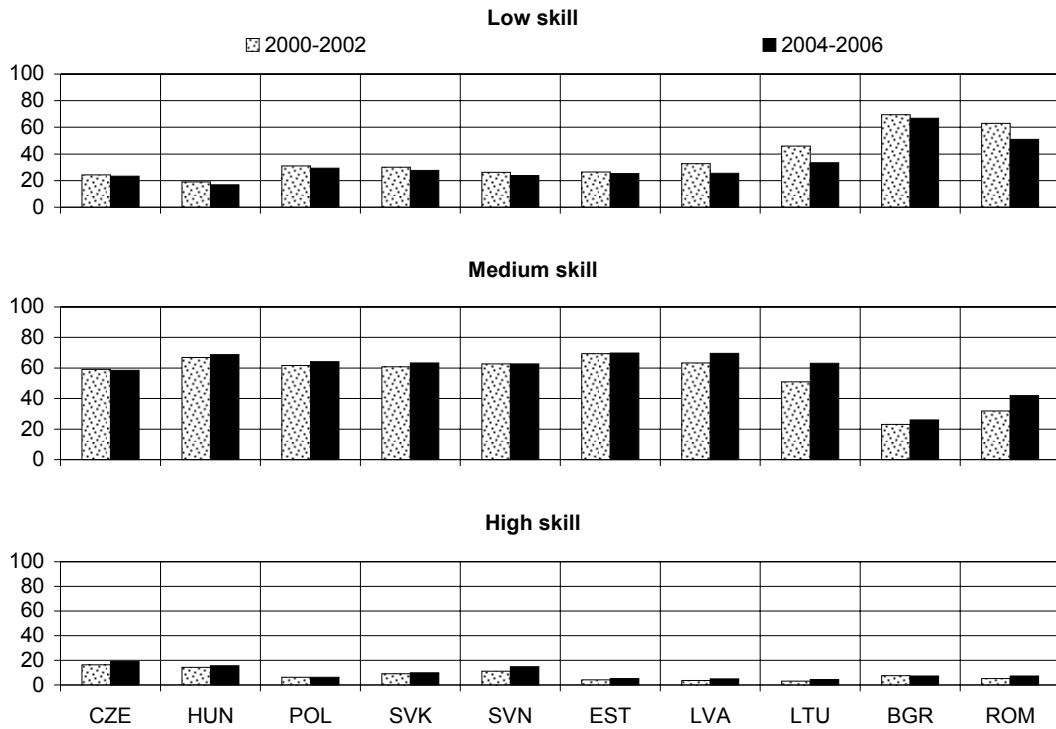


Source: COMEXT, wiiw calculations.

Figure 4.2

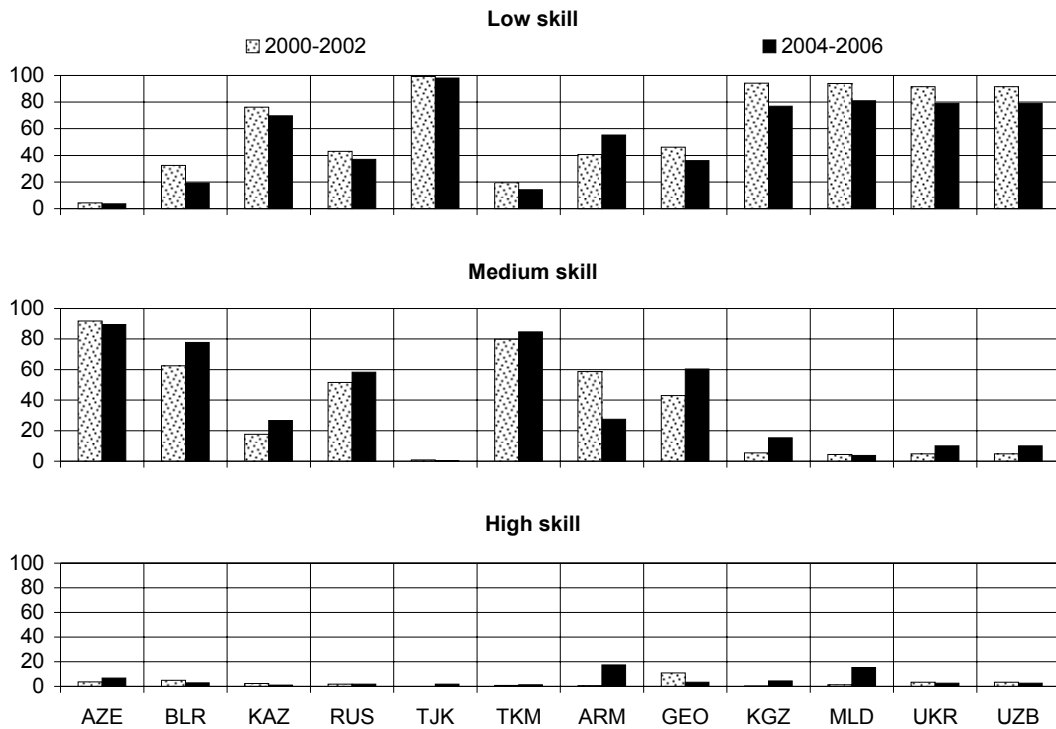
### Exports of NMS to EU-25, 2000-02, 2004-06

by skill categories, average shares



### Exports of NIS to EU-25, 2000-02, 2004-06

by skill categories, average shares



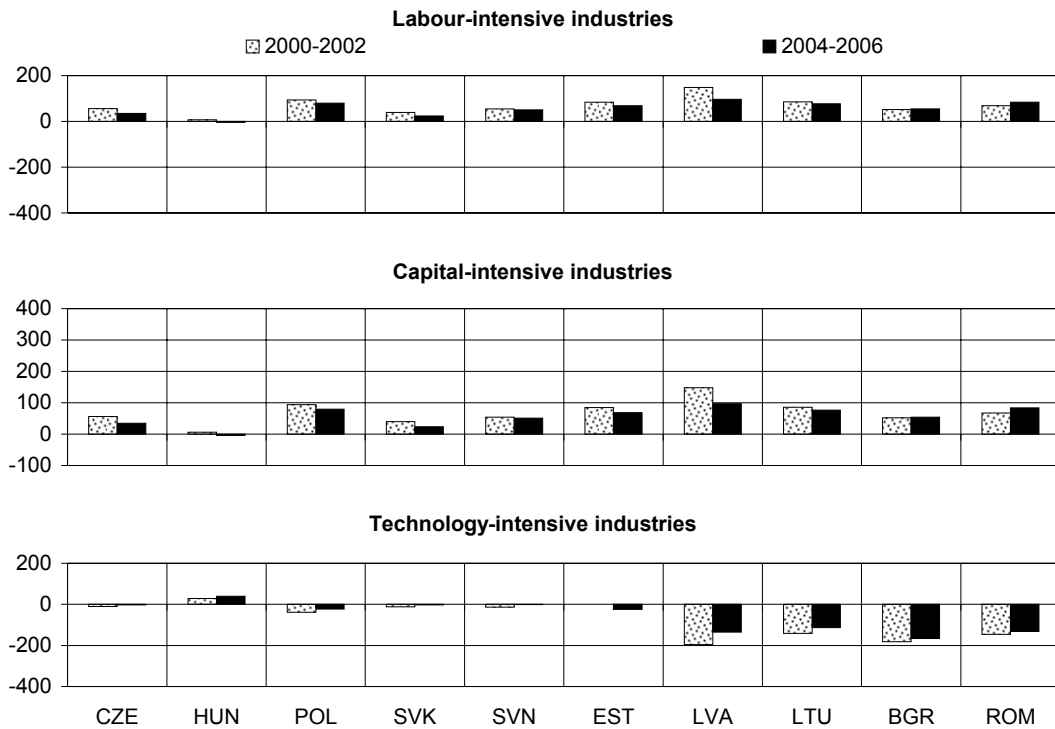
Source: COMEXT, wiiw calculations.



Figure 4.3

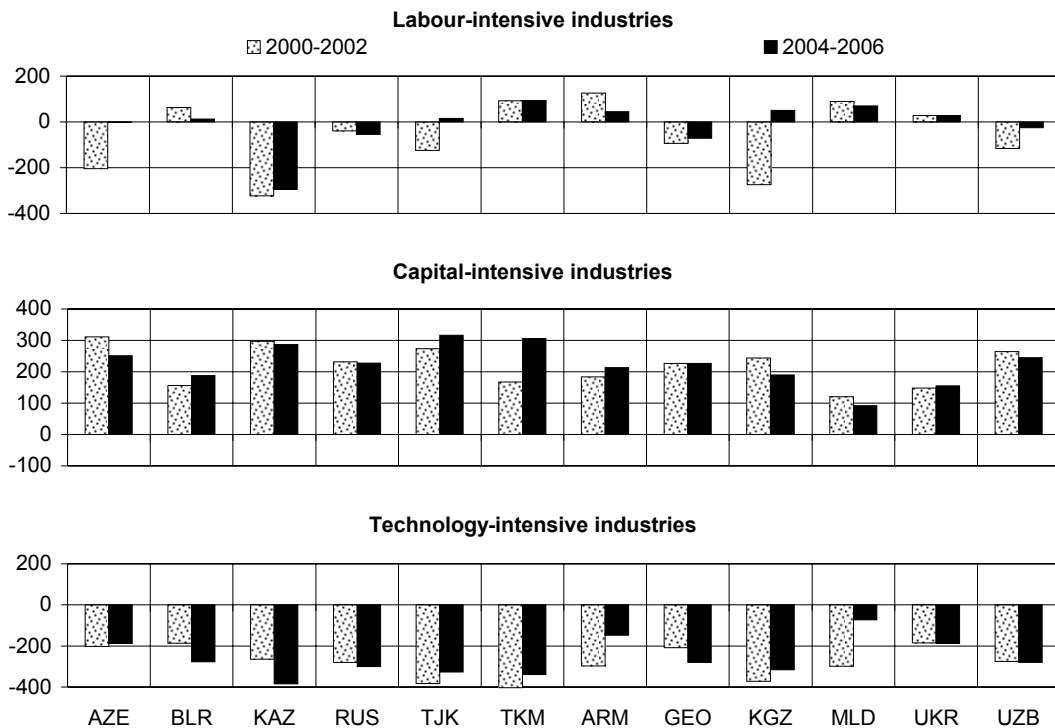
### RCA of NMS with EU-25, 2000-02, 2004-06

by industry groupings, average shares



### RCA of NIS with EU-25, 2000-02, 2004-06

by industry groupings, average shares

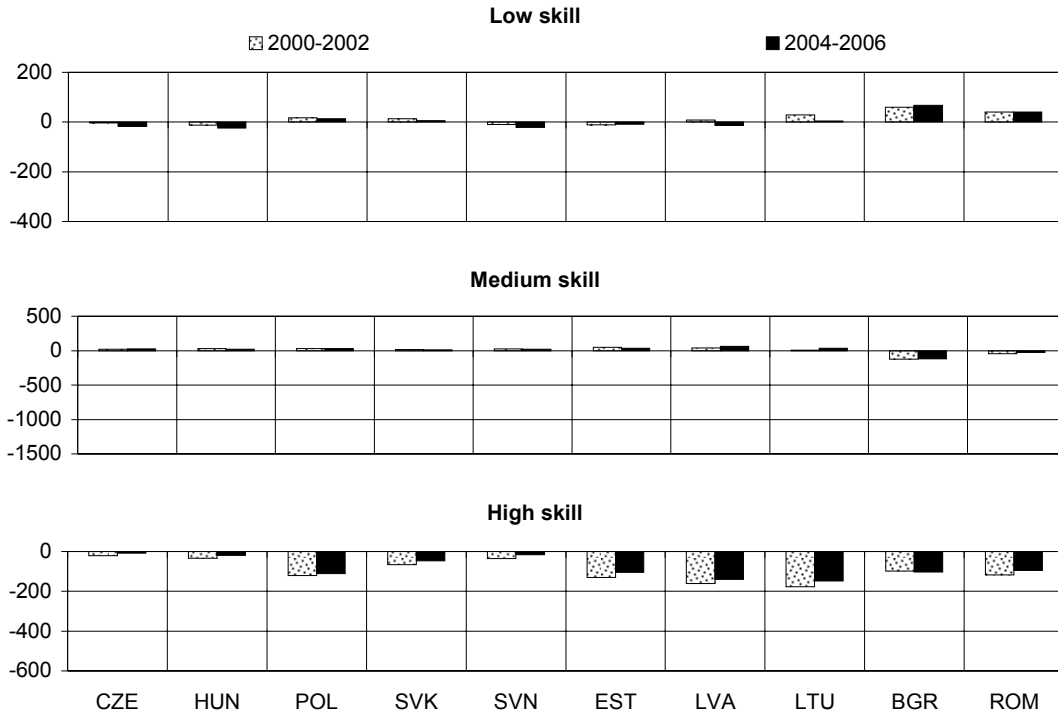


Source: COMEXT, wiiw calculations.

Figure 4.4

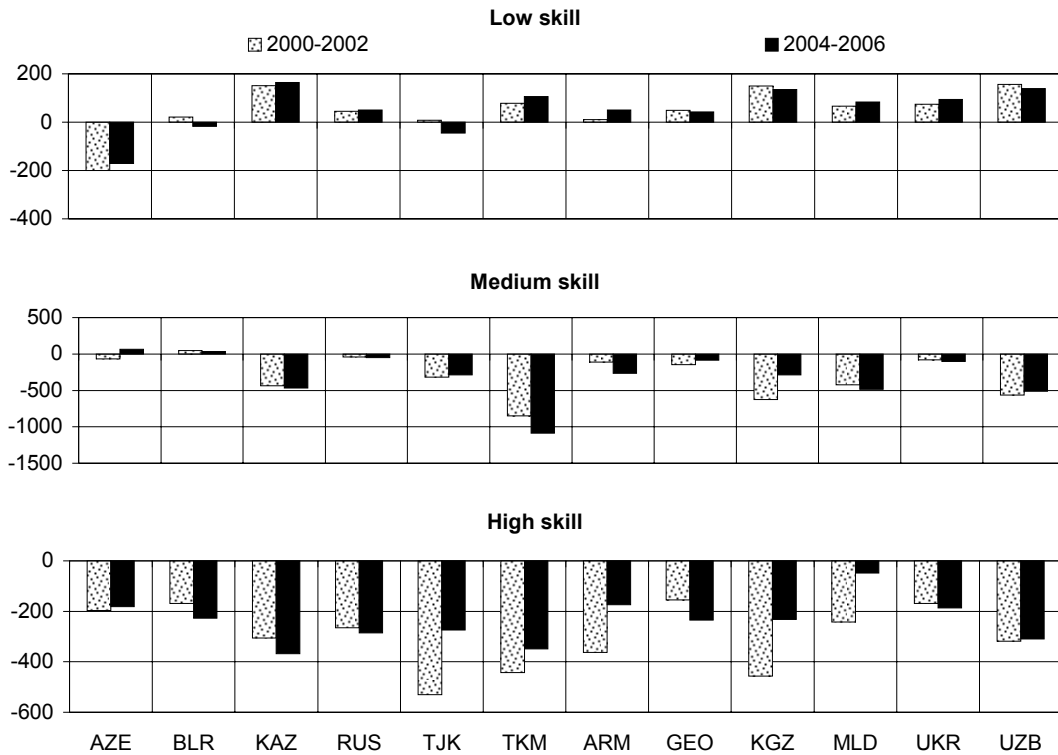
**RCA of NMS with EU-25, 2000-02, 2004-06**

by skill categories, average shares



**RCA of NIS with EU-25, 2000-02, 2004-06**

by skill categories, average shares



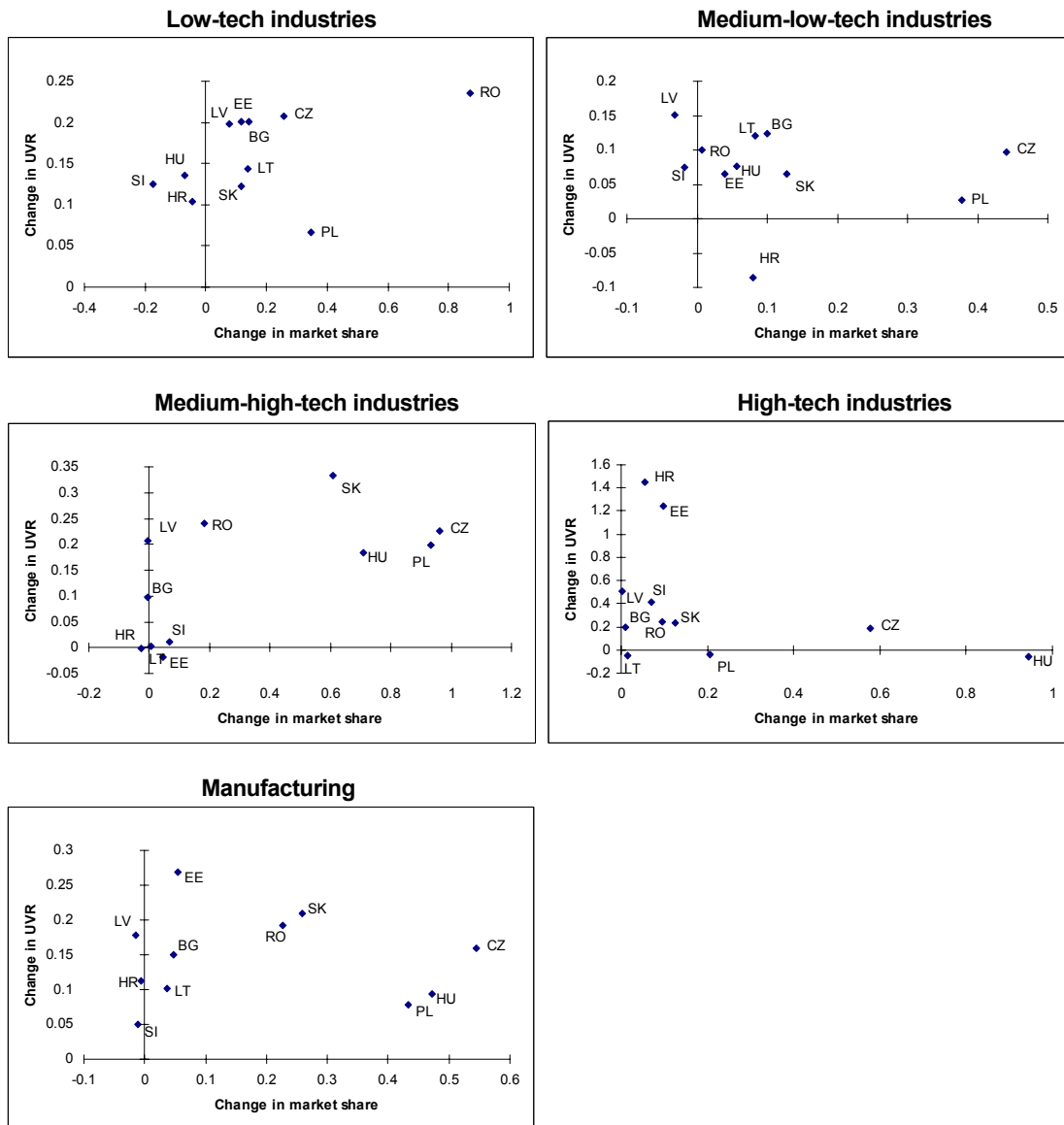
Source: COMEXT, wiiw calculations.

Let us summarize the picture of trade specialization:

- Despite a certain amount of heterogeneity within each of the two groups of countries, there is a much higher degree of export specialization of the NIS than the NMS.
- At the commodity level, we found amongst the NIS two groups of economies: those which rely heavily on fuels and fuel product exports, and another group which relies either on metals or on agricultural and textile (and textile products) exports, the latter being rather labour-intensive industries. In all the NMS on the other hand, there is a very strong export specialization on manufactured goods in general and for the advanced NMS we find a strong orientation towards machinery, electrical engineering and transport equipment within manufacturing. The principal export commodities of each country (top 15 products) can be seen in Annex Tables A.6-A.8 and show the striking differences between NIS and NMS countries.
- Using two types of taxonomies (applied only to trade with the EU-25), we can see a striking difference between NIS and NMS: Focusing on RCA indicators (which compare both export and import structures) we saw a very strong reliance on capital-intensive industries (consistent with the specialization on fuels, fuel products and metals) in the NIS and a strong deficit in technology-intensive industries; on the skill intensity side, there is a strong specialization on low-skill-intensive branches and a strong deficit in high- (and even medium-) skill-intensive branches. Amongst the NMS, on the other hand, there is much less evidence of pronounced inter-industry specialization with the EU-25: there is only slight evidence of trade specialization of the NMS (within the EU-25) on labour-intensive and capital-intensive industries and, for the more advanced NMS, hardly any deficit in high-technology or in high-skill industries (although for Bulgaria, Romania and some of the Baltics such deficits still exist).
- Finally, we want to refer to previous research (see Landesmann and Wörz, 2006) which found very significant upgrading of NMS producers within intra-industry trade as evidenced by both rising market shares and rising relative unit values across the spectrum of manufacturing industries, but particularly in medium-high-tech industries (see Figures 5 for evidence on this; Box 1 provides the explanation for the calculations undertaken).

Figure 5

**Changes in quality/price competitiveness and in market shares in EU-15 markets, 1995/98 to 2002/04 of CEECs**



Note: UVR refers to the relative export price; see Box 1 for methodological explanation.

Source: wiiw calculations.

**Box 1****Unit value ratios to calculate quality positioning**

The calculation of relative unit values of traded products is based on the COMEXT trade database at the most detailed 8-digit level. Denoting the value of exports to the EU of commodity  $i$  by country  $c$  in year  $t$  by  $v_{it}^c$  and the quantity (measured in tons) by  $x_{it}^c$ , the export unit value is defined as

$$u_{it}^c = v_{it}^c / x_{it}^c \quad (1)$$

The unit values of country  $c$ 's exports to the EU are then compared to the unit values of total EU imports (from the world, including intra-EU trade) by calculating the logs of the unit value ratios

$$r_{it}^c = \ln (u_{it}^c / u_{it}^{EU}) \quad (2)$$

where  $u_{it}^{EU}$  denotes the unit value of total EU imports for a particular commodity  $i$  in year  $t$ . Taking the logarithm of  $(u_{it}^c / u_{it}^{EU})$  ensures a symmetric aggregation across products for ratios larger and smaller than 1 (see below). In logs, the ratio is thus larger (smaller) than zero if the export unit value of country  $c$  is larger (smaller) than the unit value of total EU imports.

Information is not presented here at the very detailed (8-digit) product level but the unit value ratios are aggregated to the level of (3-digit NACE) industries and further to industry groupings. This is done by constructing a weighted sum of the unit value ratios  $r_{it}^c$  across the products belonging to a particular industry  $j$  (or an industry group). The weight used for a particular commodity  $i$  in such an aggregation is the share of its export value in the industry's exports of country  $c$ . Denoting the set of commodities  $i$  belonging to an aggregate  $j$  (industry or industry grouping) by  $i \in I(j)$  the weights are calculated as

$$w_{it}^c = v_{it}^c / \sum_{i \in I(j)} v_{it}^c \quad (3)$$

The unit value ratio for a particular aggregate  $j$  is then

$$r_{jt}^c = \sum_{i \in I(j)} r_{it}^c w_{it}^c \quad (4)$$

This measure can be interpreted analogously to the unit value ratios for a particular commodity as mentioned above.

## 2.4 Is trade specialization different with respect to different trading partners?

As already hinted at in the previous section, there are some interesting differences if we look at NIS exports to three different types of markets: the EU-25, other NIS markets, and RoW markets (for detailed product flows see Annex Tables A.7 and A.8 which allow a comparison of the main export products of NIS countries to all markets and to the EU-25; see also Figures A.5 which give the commodity composition of NIS exports to the EU-25, other NIS countries and the Rest of the World). We mentioned already earlier that for some NIS economies the (direct)<sup>12</sup> dependence on goods exports to the EU-25 is quite high: Armenia, Azerbaijan, Belarus, Kazakhstan, and Russia all export more than 40% of total goods exports to the EU-25 markets, while Belarus, Georgia, Kyrgyzstan and Moldova export more than 40% to other NIS markets. Armenia, Georgia, Kazakhstan, Kyrgyzstan and Ukraine have also very substantial (close to or above 40%) exports to the RoW.

<sup>12</sup> We speak here of 'direct dependence' as we do not track trade links which connect countries via other ports of destination, such as fuel being exported from one country, then being refined in another and the petroleum product sold to a third.

Hence the export activities are more balanced between these three regional markets than is the case for the NMS (which are highly oriented towards EU-25 markets). The question we shall ask in this section is whether trade specialization and export concentration of NIS countries is quite different in relation to these different markets.

We shall not discuss this question in great detail over here, as the issue can be explored by looking at the provided tables and figures (see Tables A.7 and A.8 as well as Figures 6 and 7), but we shall summarize the basic tendencies:

- Export structures of the NIS economies to the EU and to the RoW markets are rather similar: they are highly concentrated on raw material products (fuel and fuel products, metals, precious stones, materials, etc.). If at all, the reliance on raw material exports is even higher to RoW markets than to EU-25 markets. The degree of export concentration (measured by shares of top 3, 10, 15 products in total exports) is very high in exports to these two types of markets and, again, somewhat higher to RoW markets than to the EU-25 markets<sup>13</sup>.
- Exports by NIS producers to NIS markets are – almost by necessity – different. Here there is evidence of an intra-NIS division of labour in that export structures reflect their comparative advantages towards each other. For the structure of exports by broad categories (Agriculture, Minerals and Metals, Fuels, Manufactured Products) a comparison of the breakdown of exports to NIS with those to EU-25 and RoW can be seen from Figure 6. Taking the example of Russia, we can see a much higher share of manufactured products sold to NIS markets than to the other two types of markets. Amongst the 15 most important export articles to NIS markets feature motor vehicles, machinery, railway locomotives, rubber and plastics products, all products that do not feature in the lists of the most important export products to the non-NIS markets.
- A summary overview of the differences in export structures to EU and non-EU markets as well as RCA indicators in relation to these two types of markets can be obtained from Figures 6 and 7 both for NIS and NMS countries. It is interesting to see that while a number of NIS countries sell more manufactured goods to non-EU markets (relative to fuels) as compared to EU markets, for the NMS it is the opposite: their share of manufactured goods is higher in their sales to EU markets compared to non-EU markets (see Figure 6). This picture is reinforced when one looks at RCAs for the different manufactured goods (Figure 7) where we see that in general NIS countries have better RCA ratios in the machinery, electrical goods and transport equipment category in trade with non-EU markets than with EU markets. This is generally not the case for the NMS, pointing to their high integration into sophisticated production networks in these groups of products within the EU division of labour.

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<sup>13</sup> To compare the exports to EU-25 markets and total exports at the detailed product level, turn to Annex Tables A.7 and A.8 which show the 15 most important export products for each NIS country and also the shares of the 3, 10 and 15 export products in total products (one of our measures of export concentration).

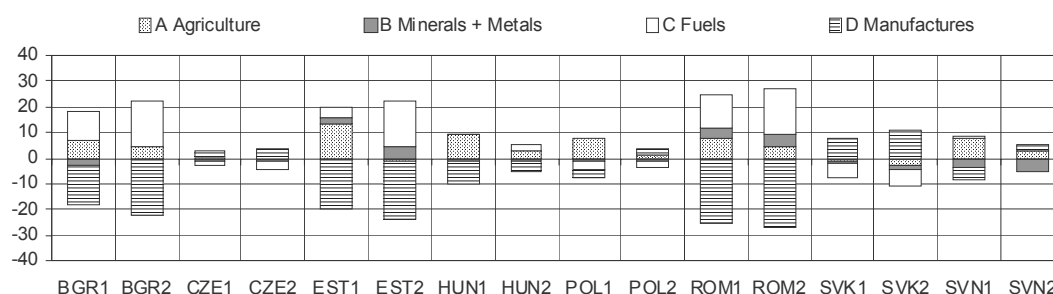
- On the issue of concentration of NIS export structures on very few products, there are generally lower concentration indicators calculated for exports to NIS markets than for exports to non-NIS markets (which are very high).
- Using the two taxonomies to analyse the export structures of the NIS to the different markets, we find that there is an improved structure with respect to skill content of their exports to NIS markets: relative to selling to the EU-25 markets as a whole, the NIS economies (with the exception of only two economies: Armenia and Georgia) export commodities to NIS markets where the share of low-skill-intensive industries is smaller and that with medium-skill content higher. Hence, as one would expect, for NIS countries there is more of a specialization towards the low-skill end when trade is considered with the EU as compared to intra-NIS trade flows.

Figure 6

### Difference in export structure to extra EU compared to EU

#### Export structure, NMS countries

(difference of industry shares in exports to non-EU partners compared to EU partners, percentage point differences)

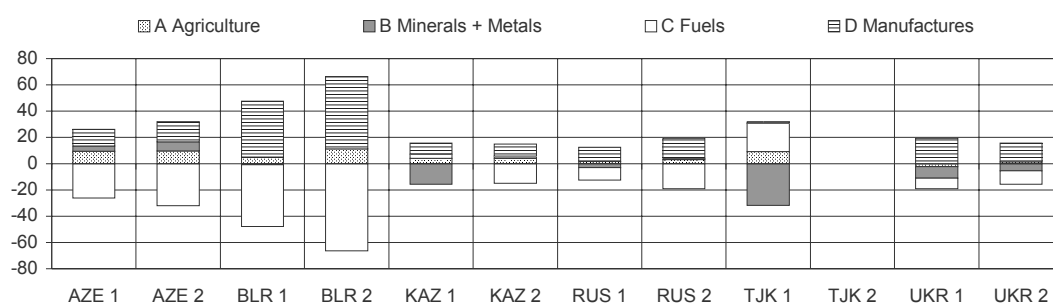


1 = period 2000-02; 2 = period 2004-06 (averages)

Source: WITS database, wiiw calculations.

#### Export structure, NIS countries (group 1)

(difference of industry shares in exports to non-EU partners compared to EU partners, percentage point differences)

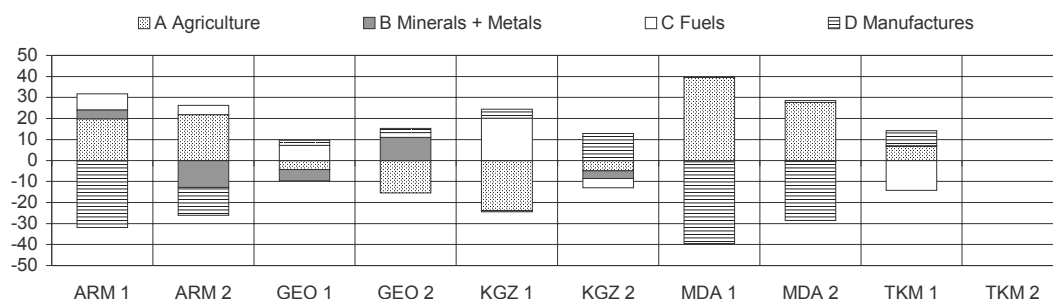


Legend: ARM: Armenia, AZE: Azerbaijan, BLR: Belarus, GEO: Georgia, KAZ: Kazakhstan, KGZ: Kyrgyzstan, RUS: Russia, TJK: Tajikistan, TKM: Turkmenistan, UKR: Ukraine  
1 = period 2000-02; 2 = period 2004-06 (averages)

Source: WITS database, wiiw calculations.

#### Export structure, NIS countries (group 2)

(difference of industry shares in exports to non-EU partners compared to EU partners, percentage point differences)



Legend: ARM: Armenia, AZE: Azerbaijan, BLR: Belarus, GEO: Georgia, KAZ: Kazakhstan, KGZ: Kyrgyzstan, RUS: Russia, TJK: Tajikistan, TKM: Turkmenistan, UKR: Ukraine  
1 = period 2000-02; 2 = period 2004-06 (averages)

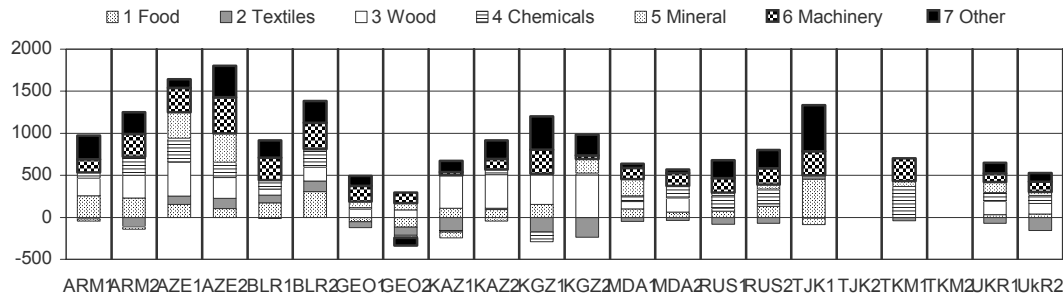


Figure 7

**Difference in RCA between trade with extra EU compared trade with EU-25**

**RCA in manufacturing , NIS countries**

(difference in RCAs of trade with non-EU partners compared with EU)



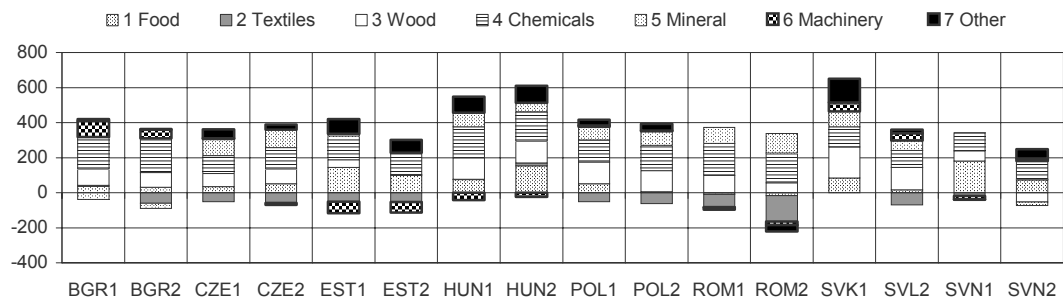
Legend: ARM: Armenia, AZE: Azerbaijan, BLR: Belarus, GEO: Georgia, KAZ: Kazakhstan, KGZ: Kyrgyzstan, RUS: Russia, TKJ: Tajikistan, TKM: Turkmenistan, UKR: Ukraine

1 = period 2000-02; 2 = period 2004-06 (averages)

Source: WITS database, wiiw calculations.

**RCA in manufacturing, NMS countries**

(difference in RCAs of trade with non-EU partners compared with EU)



Legend: 1 = period 2000-02; 2 = period 2004-06

1 Food, 2 Text/Clothing/Leather/Footwear, 3 Wood/Pulp/Paper, 4 Chemicals and Rubber, 5 Mineral and metal products, 6 Machinery/Electrical equip./Transport equip., 7 Other

Source: WITS database, wiiw calculations.

**3 Specialization and trade diversification: some comments**

The following issues will be discussed in this section:

- Trade orientation towards high-income or low- and medium-income markets
- The raw material base of trade
- The role of intra-NIS integration
- Is there scope for the development of international (intra-industry) production networks?
- What are the roles of trade and industrial policies?

We have seen a significant difference between NIS and NMS economies in their respective trade orientation towards EU and non-EU markets. This difference is understandable given the respective geographical positions of the two groups of economies and also because of the different historical links (after all, NIS countries all emerged from a single country, the Soviet Union, which means a tighter economic link than simply belonging to the same trading bloc such as the CMEA). Whatever explains the difference in market orientation, it shapes patterns of industrial specialization and trade.

An orientation towards high-income markets means a catering towards more advanced demand structures both for final and intermediate products. The upgrading effect of orienting a country's trade links towards high-income markets has been a well documented feature of post-war strategies of Asian economies (first Japan, then other East Asian economies and more recently China) and also the Central and Eastern European economies (the NMS) are the beneficiaries of their close links with the high-income Western European markets. These historical examples have shown that there are two types of strategies with which a strong orientation towards high-income markets can be attained (sometimes in spite of geographic distance to these markets): one is an explicit industrial and trade policy which encourages and supports domestic enterprises to make major efforts to succeed in highly competitive high-income markets, as was the case with Japan, Korea and other east Asian economies after WWII. The other is the reliance on Western multinationals which have the technological, logistic and organizational know-how as well as the market acquaintance with high-income markets and can support the build-up of successful exporting platforms in catching-up economies. With both these two strategies, special effort is required to succeed in production activities which have the benefit of strong learning potential but which might not reflect the static comparative advantage positions of low- or medium-income countries (and especially of raw material rich countries!). This special effort has been made, on the one hand, by using industrial and educational policy devices shaping the corporate cultures and strategies of countries such as Japan and Korea and, on the other hand, by putting policies in place designed to attract foreign multinationals in countries such as Malaysia, China, Hungary, Slovakia, etc.

As regards the NIS, very little attempt has been made so far to adopt either of these two types of strategies, although recently there has been increased talk of and preparations for an 'industrial policy' being directed towards 'diversification' boosted by the availability of funds which have accumulated in the wake of the energy price and commodity price booms. Although in the energy-rich NIS countries there are, on the one hand, funds available to execute such a strategy, the pattern of comparative advantage and the countries' positions in the international structure of trade specialization seem to have become very deeply ingrained with little sign of diversification. The reason for this are partly narrowly economic (the comparative advantage phenomenon itself) and partly political-economic as argued in our previous discussion regarding the push towards distinct

patterns of international specialization given the institutional and the legal-contractual situation in a country (see sections 2.1 and 2.2). In such a situation one needs a major push to overcome political-economic resistances to adopt an effective strategy of this type (we shall return to this issue in section 4).

Now to the normative issue of specializing on raw material-intensive exports: Is there something principally wrong with specializing on raw material-intensive forms of production and trade? In principle not, but one has to learn from the successful country strategies where a strong raw material base has been used to develop forwardly linked production stages and processing industries. This was the case in the Scandinavian countries in relation to wood-based industries, or in the Netherlands and Denmark in relation to agriculture-based industries; other examples include the sophisticated engineering industries and skills which can develop around energy sources (both non-renewable and renewable ones) in Britain and Norway (oil), Denmark (wind) or Israel (sun). However, the technologies which are often needed in such industries are highly sophisticated and hence here again the importance to benefit from technology transfer mechanisms (such as FDI) or a highly sophisticated domestic technological and skill infrastructure is essential.

Is there scope for intra-regional diversification? As mentioned above, international evidence suggests that the fastest technological (and product quality) upgrading takes place when exporters are directing their exports towards high-income markets (the recipe of the fast catching-up Asian economies and, more recently, of the NMS). However, there is no reason why trade integration amongst low- or medium-income countries cannot also contribute to trade (and production) diversification and upgrading, especially when the group of countries are all undergoing fast and sustained economic growth (see the recently strong increase in intra-Asian trade flows). Such intra-regional trade integration could help diversification particularly in cases in which trade structures with more advanced economies are 'locked in' in very pronounced specialization patterns (such as the currently overwhelming specialization of NIS on fuels, metals, and other raw or lightly processed materials). In fact, the analysis of product structures and of the skill content of NIS exports conducted above has shown that in the cases of many NIS countries, exports to other NIS countries are of the more processed (and less raw material) variety and also have higher skill content. Furthermore, export structures to other NIS countries are less concentrated and hence more 'diversified'. This would indicate that – given the high degree of specialization on raw materials in trade with the EU and the RoW – the NIS might benefit at this stage from the greater scope for 'diversification' in their trade with each other, especially as high income growth resulting from a commodity price boom on world markets gives a boost to intra-NIS trade. Thus, although one should not ignore the scope for increased intra-regional trade and the impact it can have on some degree of diversification in trading and production structures, one should also acknowledge the fact that historical examples suggest that a 'climbing up the ladder' process is, firstly, strongly encouraged by

a strong interaction with high-income markets and, secondly, that it is greatly helped by the role which international firms can play in technology transfer, organizational upgrading and in market access.

Is there scope to extend international production networks to NIS countries? The integration of middle-income countries (such as the NMS or East Asian economies) into international production networks has played an important role in the technological and organizational upgrading processes of these economies. It is through supplier-linkages that important advances are being made in technological know-how, product specification and in access to high-income markets. The interest by international companies in developing such production networks will be there as long as domestic capacities in the form of potentially suitable domestic firms, workers with the right skills and appropriate transport and logistics facilities exist (or can be developed) which do keep transport and transaction costs below the necessary threshold level. It is clear that different types of industries (such as software development as compared to industries which need to transport heavy goods) will be differently affected by the availability or the lack of such domestic capacities and this will shape the development of international production networks in different countries and regions. For instance, it is generally recognized that the availability of language and engineering skills, on the one hand, and the lack of good transport infrastructure, on the other hand, led to the boom in the outsourcing of software development to India while China, with its good coastal infrastructure and the supply of cheap and disciplined manufacturing workers, became a very important hub for international production networks in manufacturing. Hence, the integration into international production networks and their development in particular industrial areas and locations can, to some extent, be steered through policies which encourage the development of the appropriate domestic capacities.

This brings us to the role of trade and industrial policies in countries which are rich in energy and/or other raw materials. As discussed earlier, in such countries the danger of a 'lock-in' into an undiversified structure of trade specialization is high, especially under conditions in which the international and domestic political-economic environment reinforces such a lock-in. However, trade and industrial policies can improve such environments and have an effect on political-economic constellations. The current negotiations on WTO membership of a number of NIS countries is a case in point as are trade and partnership agreements with the European Union. It is beyond the scope of this paper to discuss the nature of such agreements in detail and what impact they could have on industrial and trade development patterns in NIS economies. It is not straightforward that liberalization *per se* would lead to 'diversification', as trade liberalization can also support further specialization on the lines of existing, static comparative advantages. The degree to which trade liberalization enforces the degree and nature of specialization (or of 'diversification') should be seen in connection with the other environmental conditioning factors discussed throughout this paper (state of reform, contractual reliability, state of infrastructure and availability of other local capacities,

policies to attract foreign investors, etc.). There is therefore the possibility to use a combination of – what Rumen Dobrinsky (see Dobrinsky, 2008) calls – ‘knowledge-oriented industrial policy’ and trade policy instruments to influence the pattern of trade specialization or diversification which would lead to a desired development pattern.

#### **4 What is to be done?**

We have emphasized in this paper (and referred to the detailed country studies from the INDEUNIS project) that progress in economic structure and trade performance (in the direction of diversification) is importantly linked to institutional features and the speed-up of reform processes in NIS. We made the argument that a lack of either an international reform anchor such as the prospect of EU accession or of a sustained prospect of domestic reform processes leading to contractual security and attractiveness to foreign investors across the whole range of economic activities, will lead to a lop-sided development of trading and FDI activity and to entrenched specialization structures on raw material-intensive forms of production. This in turn supports political-economic power structures which favour the control of the raw material base with all that this entails in the weighting of different economic interests in the political process. In a different situation are small, low-income countries such as Moldova, Georgia or Kyrgyzstan which do not dispose of a strong raw material base and might also be at a disadvantage in terms of geographic location (either simply in transport terms or being part of a politically unstable region). In these economies, also major efforts of reform might not lead to a strong attraction for FDI and the dependence upon the large regional trading partners will be very strong.

In the following we shall assume that in the majority of the NIS countries (with the possible exception of countries which might – against current odds – be given an EU accession perspective following the likely West Balkan Enlargement) the speed of reforms and also the changes in the political-economic structures of these countries will follow at best a ‘gradualist’ or at worst a ‘stagnationist’ pattern. We take this to be the realistic scenario as there is not much reason to expect a big jump in the speed of reform processes (i.e. full convergence with NMS in this respect) as this would go against the interests of the current political and economic elites. In these circumstances we can think of three possible scenarios.

*Scenario A:* NIS remain locked into an undiversified trade structure heavily based on natural resources. They remain heavily dependent upon fuel and raw material exports with little movement into either up-stream (i.e. processing) stages or diversifying away from their current structures of specialization.

*Scenario B:* In this scenario NIS countries follow the developmental paths of other economies (such as Scandinavian countries in the first half of the 20<sup>th</sup> century) to add

processing stages as well as input-production (including specialized machinery) to the raw material producing sectors. This strategy can also be followed in the case of agriculture which allows the development of the forwardly linked food-processing (and beverages) industries. In the development of such processing stages there is no ceiling as to technology and product quality upgrading and hence the potential move into high-value added activities.

*Scenario C:* The energy and raw material boom (which has, however, collapsed in the current global economic crisis) creates a long-term bonanza in terms of real income developments. As the economies (with some exceptions) remain semi-liberalized (i.e. with quite a lot of control by the state and/or influential business groups) they will shy away from a full opening up of domestic markets to foreign competition. Growing real incomes, however, create the demand for differentiation and, with the benefit of either a large domestic market and/or some degree of domestic market protection, domestic production starts to cater for the more differentiated and growing demand structure in domestic and regional (i.e. NIS) markets. This form of diversification can be strengthened through the simultaneity of growth processes in other NIS markets which allows for a deepening of intra-NIS trade flows which – as we saw in the analysis above – is more diversified than extra-NIS trade flows.

Just before the eruption of the current global economic crisis, one can argue that the energy-rich CIS countries found themselves in Scenario C. GDP growth was high in these economies and there is scope for diversifying domestic production structures catering to the more differentiated demand side as incomes rise (indications are that, while income distribution becomes more unequal, there is also some widening of purchasing power across a wider section of society). Especially the larger economies become also attractive for foreign investors who cater to the growing domestic demand. They are of the 'market-seeking' variety and recent evidence (e.g. for Russia) does suggest that the sectoral allocation of FDI has indeed become more diversified as the domestic market grows in depth and width. What this scenario does not produce, or at least not at the speed which we have encountered in the NMS, is the development of a diversified export capacity. The reason for this is that the conditions which make economies attractive as diversified 'export platforms' are not in place. This is also true for a wide range of sectors which would have the potential to be integrated into international production networks, but where the state of institutional/legal reform, of infrastructure or the political-economic conditions do not provide the incentives to do so.

If Scenario C remains the most likely scenario through which the resource-rich NIS countries can experience a certain degree of 'diversification', it will be unlikely that they will exploit the full upgrading potential open to catching-up countries. The use of this potential would require a removal of the features which created the lock-in effect into the current energy- and raw material-based patterns of international trade specialization and which

have been discussed at length in this paper. The removal of these features together with a shift towards an effective use of 'knowledge-oriented forms of industrial policy' would allow the NIS economies to move towards Scenario B or even a further Scenario D in which the raw material base becomes less important and patterns of intra-industry trade and horizontally differentiated trade become dominant (as is increasingly the case for the NMS) and which are the features of most fully developed, high-income market economies. As regards the group of (relatively small) NIS economies which are not energy- or raw material-rich (Georgia, Moldova, Kyrgyzstan) they are heavily dependent upon trade and production linkages across the region and hence their development would be furthered through low inter-regional barriers to business activity and, of course, an attempt towards upgrading of infrastructure, educational capabilities and in the quality of institutions. Production and export diversification will benefit also from 'market diversification', i.e. from linkages to high-income markets in Europe and abroad, but also from regional production and market integration.

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## ANNEX

Table A.1

### Gross domestic product at constant prices, 1991 = 100

	NIS Countries																		
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Azerbaijan	.	.	100	77	60	48	42	43	45	50	53	59	65	72	80	88	112	150	.
Armenia	.	.	100	58	53	56	60	63	65	70	73	77	84	95	109	120	137	155	.
Belarus	.	.	100	90	84	74	66	68	76	82	85	90	94	99	106	118	129	141	.
Georgia	.	.	100	55	39	35	36	40	44	45	47	48	50	53	58	62	68	74	.
Kazakhstan	.	.	100	95	86	75	69	69	71	69	71	78	89	97	106	116	128	141	.
Kyrgyzstan	.	.	100	86	73	58	55	59	65	66	69	72	76	76	81	87	87	89	.
Moldova	.	.	100	71	70	48	48	45	46	43	41	42	45	48	51	55	59	62	.
Russia	109	105	100	85	78	68	65	63	64	60	64	71	74	78	84	90	95	102	111
Tajikistan	.	.	100	70	59	46	41	34	34	36	38	41	45	49	55	61	65	70	.
Turkmenistan	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uzbekistan	.	.	100	89	87	82	82	83	87	91	95	99	103	107	112	120	129	138	.
Ukraine	114	110	100	90	77	60	52	47	46	45	45	47	52	54	60	67	69	74	79
<b>NIS average <sup>1)</sup></b>	<b>119</b>	<b>114</b>	<b>100</b>	<b>86</b>	<b>90</b>	<b>86</b>	<b>95</b>	<b>97</b>	<b>101</b>	<b>96</b>	<b>105</b>	<b>109</b>	<b>106</b>	<b>105</b>	<b>108</b>	<b>108</b>	<b>107</b>	.	.
	NMS-10																		
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Czech Republic	115	113	100	99	100	102	108	112	111	110	112	116	119	121	126	131	139	148	158
Hungary	118	114	100	97	96	99	101	102	107	112	117	123	128	133	139	145	151	157	159
Poland	122	108	100	103	107	112	120	127	136	143	150	156	158	160	166	175	181	193	205
Slovak Republic	120	117	100	93	90	96	101	108	114	119	119	121	125	131	137	144	153	167	184
Slovenia	115	110	100	95	97	102	107	110	116	120	126	132	136	141	145	151	157	166	176
Bulgaria	125	113	100	93	91	93	96	87	82	85	87	92	95	100	105	112	119	126	134
Romania	122	115	100	91	93	96	103	107	101	96	95	97	102	107	113	123	128	138	146
Estonia	126	116	100	86	78	77	80	84	94	99	98	108	116	125	135	146	160	178	191
Latvia	111	114	100	68	60	61	61	63	68	72	75	80	87	92	99	108	119	134	147
Lithuania	110	106	100	79	66	60	61	65	70	75	74	77	82	88	97	104	113	121	132
<b>NMS-10</b>	<b>119</b>	<b>112</b>	<b>100</b>	<b>96</b>	<b>96</b>	<b>99</b>	<b>105</b>	<b>109</b>	<b>112</b>	<b>114</b>	<b>118</b>	<b>122</b>	<b>126</b>	<b>130</b>	<b>136</b>	<b>143</b>	<b>150</b>	<b>160</b>	<b>170</b>

Note: 1) 1989-1990 USRR - National income.

Table A.2

## Gross industrial production – total, 1991 = 100

	NIS Countries																		
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Azerbaijan	.	.	100	70	56	42	33	31	31	32	33	35	37	38	40	43	57	78	.
Armenia	.	.	100	52	46	49	50	50	51	50	52	56	59	67	77	79	85	84	.
Belarus	.	.	100	91	82	70	62	64	76	86	95	102	108	113	121	140	155	173	.
Georgia	.	.	100	54	34	21	18	19	21	21	22	24	23	25	28	31	36	.	.
Kazakhstan	.	.	100	86	73	53	48	49	51	49	51	59	67	74	80	89	93	100	.
Kyrgyzstan	.	.	100	74	57	36	27	28	39	41	39	42	44	39	46	48	42	38	.
Moldova	.	.	100	73	73	53	51	48	48	40	36	38	44	48	56	61	64	60	.
Russia	.	.	100	82	71	56	54	52	53	50	56	62	64	66	72	78	81	84	89
Tajikistan	.	.	100	76	70	52	45	34	34	36	38	42	48	53	58	66	73	77	.
Turkmenistan	.	.	100	85	89	67	61	73	57	58	.	.	.	.	.	.	.	.	.
Uzbekistan	.	.	100	93	97	98	98	101	105	109	115	122	131	142	151	165	177	.	.
Ukraine	.	.	100	94	86	63	55	52	52	52	54	61	69	74	86	97	100	106	117
<b>NIS average <sup>1)</sup></b>	<b>110</b>	<b>109</b>	<b>100</b>	<b>86</b>	<b>75</b>	<b>59</b>	<b>55</b>	<b>52</b>	<b>53</b>	<b>51</b>	<b>55</b>	<b>60</b>	<b>63</b>	<b>66</b>	<b>73</b>	<b>79</b>	<b>84</b>	.	.
	NMS-10																		
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Czech Republic	131	127	100	92	87	89	97	99	103	105	102	103	110	112	118	129	138	154	166
Hungary	133	120	100	90	94	103	108	111	124	139	154	181	188	193	205	221	236	259	280
Poland	143	109	100	103	109	123	135	146	162	168	174	186	187	189	205	231	239	266	293
Slovak Republic	129	124	100	91	87	91	99	101	104	109	107	116	124	132	139	144	150	165	186
Slovenia	128	114	100	87	84	90	92	92	93	97	96	102	105	108	109	115	118	126	134
Bulgaria	151	125	100	82	74	81	85	89	73	67	61	66	67	72	82	93	103	111	121
Romania	160	130	100	75	75	78	85	90	84	72	70	75	82	85	88	93	94	101	107
Estonia	108	108	100	64	52	51	52	53	61	64	61	70	77	83	92	102	113	121	128
Latvia	100	101	100	65	45	40	39	41	46	48	45	47	51	53	57	60	64	67	67
Lithuania	106	103	100	70	46	34	35	37	38	43	39	40	46	48	55	61	65	70	73
<b>NMS-10</b>	.	<b>117</b>	<b>100</b>	<b>89</b>	<b>88</b>	<b>94</b>	<b>101</b>	<b>107</b>	<b>111</b>	<b>112</b>	<b>113</b>	<b>121</b>	<b>126</b>	<b>130</b>	<b>139</b>	<b>152</b>	<b>159</b>	<b>174</b>	<b>189</b>

Note: 1) 1989-1990 USRR.

Table A.3

**SITC classification – broad level**  
used in trade structure figures

<b>A Agriculture + Food + Raw Materials</b>	0+1+2-27-28+4
<b>B Minerals + Metals</b>	27+28+68
<b>C Fuels</b>	3
<b>D Manufactures</b>	
<b>1 Food</b>	0+1+22+4
<b>2 Textiles</b>	26+65+84+61+85
<b>3 Wood</b>	63+82+25+64
<b>4 Chemicals</b>	5+62
<b>5 Mineral</b>	66+67+68+69
<b>6 Machinery</b>	7+87+88
<b>7 Other</b>	81+83+89

Table A.4

**SITC classification – detailed level**

<b>A Agriculture + Food + Raw Materials</b>	0 Food and live animals +1 Beverages and tobacco +2 Crude materials, inedible, except fuels -27 Crude fertilizers and crude materials -28 Metalliferous ores and metal scrap +4 Animal and vegetable oils, fats and waxes
<b>B Minerals + Metals</b>	27 Crude fertilizers and crude materials +28 Metalliferous ores and metal scrap +68 Non-ferrous metals
<b>C Fuels</b>	3 Mineral fuels, lubricants and related materials
<b>D Manufactures</b>	
<b>1 Food</b>	0 Food and live animals +1 Beverages and tobacco +22 Oil seeds and oleaginous fruits +4 Animal and vegetable oils, fats and waxes
<b>2 Textiles</b>	26 Textile fibres +65 Textile yarn, fabrics, made-up articles, n.e.s. +84 Articles of apparel and clothing accessories +61 Leather, leather manufactures, n.e.s. +85 Footwear
<b>3 Wood</b>	+63 Cork and wood manufactures +82 Furniture and parts thereof +25 Pulp and waste paper +64 Paper and paperboard and articles thereof
<b>4 Chemicals</b>	5 Chemicals and related products, n.e.s. +62 Rubber manufactures, n.e.s.
<b>5 Minerals and metals</b>	+66 Non-metallic mineral manufactures, n.e.s. +67 Iron and steel +68 Non-ferrous metals +69 Manufactures of metals, n.e.s.
<b>6 Machinery</b>	7 Machinery and transport equipment +87 Professional, scientific and controlling instruments and apparatus, n.e.s. +88 Photographic apparatus, optical goods
<b>7 Other</b>	81 Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings n.e.s. +83 Travel goods, handbags and similar cont. +89 Miscellaneous manufactured articles, n.e.s.

Table A.5

**Taxonomy used in industry classifications (by factor and skill intensities)**

	<b>NACE rev.1</b>	<b>Taxonomy I factor inputs</b>	<b>Taxonomy II labour skills</b>
Meat products	151	4	1
Fish and fish products	152	4	1
Fruits and vegetables	153	4	1
Vegetable and animal oils and fats	154	4	1
Dairy products; ice cream	155	4	1
Grain mill products and starches	156	4	1
Prepared animal feeds	157	4	1
Other food products	158	4	1
Beverages	159	4	1
Tobacco products	160	4	1
Textile fibres	171	3	1
Textile weaving	172	2	1
Made-up textile articles	174	2	1
Other textiles	175	1	1
Knitted and crocheted fabrics	176	1	1
Knitted and crocheted articles	177	1	1
Leather clothes	181	2	1
Other wearing apparel and accessories	182	2	1
Dressing and dyeing of fur; articles of fur	183	2	1
Tanning and dressing of leather	191	4	1
Luggage, handbags, saddlery and harness	192	4	1
Footwear	193	4	1
Sawmilling, planing and impregnation of wood	201	2	2
Panels and boards of wood	202	2	2
Builders' carpentry and joinery	203	2	2
Wooden containers	204	2	2
Other products of wood; articles of cork, etc.	205	2	2
Pulp, paper and paperboard	211	3	3
Articles of paper and paperboard	212	1	3
Publishing	221	4	3
Printing	222	4	3
Coke oven products	231		
Refined petroleum and nuclear fuel	232	3	3
Nuclear fuel	233		
Basic chemicals	241	3	3
Pesticides, other agro-chemical products	242	5	3
Paints, coatings, printing ink	243	1	3
Pharmaceuticals	244	5	4
Detergents, cleaning and polishing, perfumes	245	4	3
Other chemical products	246	5	3
Man-made fibres	247	3	3
Rubber products	251	1	1
Plastic products	252	1	1
Glass and glass products	261	1	1
Ceramic goods	262	2	1
Ceramic tiles and flags	263	3	1
Bricks, tiles and construction products	264	2	1
Cement, lime and plaster	265	3	1
Articles of concrete, plaster and cement	266	1	1
Cutting, shaping, finishing of stone	267	2	1
Other non-metallic mineral products	268	1	1
Basic iron and steel, ferro-alloys (ECSC)	271	3	1
Tubes	272	1	1
Other first processing of iron and steel	273	3	1

	<b>NACE rev.1</b>	<b>Taxonomy I factor inputs</b>	<b>Taxonomy II labour skills</b>
Basic precious and non-ferrous metals	274	3	1
Structural metal products	281	2	2
Tanks, reservoirs, central heating radiators and boilers	282	4	2
Steam generators	283	2	2
Cutlery, tools and general hardware	286	4	2
Other fabricated metal products	287	1	2
Machinery for production, use of mech. power	291	1	4
Other general purpose machinery	292	1	4
Agricultural and forestry machinery	293	1	4
Machine-tools	294	2	4
Other special purpose machinery	295	1	4
Weapons and ammunition	296	1	4
Domestic appliances n. e. c.	297	1	3
Office machinery and computers	300	5	4
Electric motors, generators and transformers	311	1	3
Electricity distribution and control apparatus	312	5	3
Isolated wire and cable	313	1	3
Accumulators, primary cells and primary batteries	314	1	3
Lighting equipment and electric lamps	315	1	3
Electrical equipment n. e. c.	316	2	3
Electronic valves and tubes, other electronic comp.	321	5	3
TV, and radio transmitters, apparatus for line telephony	322	5	3
TV, radio and recording apparatus	323	5	3
Medical equipment	331	5	3
Instruments for measuring, checking, testing, navigating	332	5	3
Optical instruments and photographic equipment	334	5	3
Watches and clocks	335	4	3
Motor vehicles	341	5	2
Bodies for motor vehicles, trailers	342	2	2
Parts and accessories for motor vehicles	343	3	2
Ships and boats	351	2	2
Railway locomotives and rolling stock	352	2	2
Aircraft and spacecraft	353	5	4
Motorcycles and bicycles	354	1	2
Other transport equipment n. e. c.	355	1	2
Furniture	361	2	2
Jewellery and related articles	362	2	2
Musical instruments	363	4	2
Sports goods	364	4	2
Games and toys	365	4	2
Miscellaneous manufacturing n. e. c.	366	4	2

Taxonomy I

factor inputs

- 1..Mainstream
- 2..Labour intensive industries
- 3..Capital intensive industries
- 4..Marketing driven industries
- 5..Technology driven industries

Taxonomy II

labour skills

- 1..Low skill industries
- 2..Medium skill/blue collar workers
- 3..Medium skill/white collar workers
- 4..High skill industries

Table A.6

**NMS: Main export products to the EU-25 (average export share 2004-2006)****Bulgaria**

2004-2006

18.2 Manufacture of other wearing apparel and accessories	19.7		
27.4 Manufacture of basic precious and non-ferrous metals	15.6		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	9.3		
19.3 Manufacture of footwear	4.1		
24.1 Manufacture of basic chemicals	3.8		
23.2 Manufacture of refined petroleum products	3.0		
17.7 Manufacture of knitted and crocheted articles	2.8		
29.1 Manufacture of machinery for the production and use of mechanical power	2.6		
36.1 Manufacture of furniture	2.6		
17.1 Preparation and spinning of textile fibres	1.8		
15.3 Processing and preserving of fruit and vegetables	1.7		
15.1 Production, processing and preserving of meat and meat products	1.6		
29.2 Manufacture of other general purpose machinery	1.4	Top 3	44.7
29.5 Manufacture of other special purpose machinery	1.3	Top 10	65.3
28.7 Manufacture of other fabricated metal products	1.3	Top 15	72.7

**Czech Republic**

2004-2006

34.1 Manufacture of motor vehicles	10.1		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	9.3		
30.0 Manufacture of office machinery and computers	6.2		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	4.3		
29.2 Manufacture of other general purpose machinery	3.7		
24.1 Manufacture of basic chemicals	3.5		
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	3.4		
29.1 Manufacture of machinery for the production and use of mechanical power	3.2		
28.7 Manufacture of other fabricated metal products	2.9		
29.5 Manufacture of other special purpose machinery	2.7		
25.2 Manufacture of plastic products	2.6		
31.2 Manufacture of electricity distribution and control apparatus	2.5		
31.6 Manufacture of electrical equipment n.e.c.	2.4	Top 3	25.7
25.1 Manufacture of rubber products	2.4	Top 10	49.3
36.1 Manufacture of furniture	2.3	Top 15	61.5

**Estonia**

2004-2006

23.2 Manufacture of refined petroleum products	14.8		
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	7.7		
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	7.2		
20.1 Sawmilling and planing of wood, impregnation of wood	5.2		
34.1 Manufacture of motor vehicles	5.2		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	4.3		
36.1 Manufacture of furniture	3.9		
18.2 Manufacture of other wearing apparel and accessories	3.5		
24.1 Manufacture of basic chemicals	3.1		
17.4 Manufacture of made-up textile articles, except apparel	2.4		
20.3 Manufacture of builders' carpentry and joinery	2.1		
29.2 Manufacture of other general purpose machinery	1.9		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	1.9	Top 3	29.7
25.2 Manufacture of plastic products	1.8	Top 10	57.2
15.5 Manufacture of dairy products	1.7	Top 15	66.7

**Hungary****2004-2006**

34.1 Manufacture of motor vehicles	16.5		
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	10.9		
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	8.1		
30.0 Manufacture of office machinery and computers	7.1		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	4.7		
24.1 Manufacture of basic chemicals	3.4		
29.1 Manufacture of machinery for the production and use of mechanical power	2.6		
31.2 Manufacture of electricity distribution and control apparatus	2.1		
18.2 Manufacture of other wearing apparel and accessories	2.0		
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	2.0		
27.4 Manufacture of basic precious and non-ferrous metals	2.0		
31.6 Manufacture of electrical equipment n.e.c.	2.0		
23.2 Manufacture of refined petroleum products	1.9	Top 3	35.5
29.7 Manufacture of domestic appliances n.e.c.	1.9	Top 10	59.4
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	1.8	Top 15	68.9

**Latvia****2004-2006**

23.2 Manufacture of refined petroleum products	32.2		
20.1 Sawmilling and planing of wood, impregnation of wood	14.1		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	6.0		
18.2 Manufacture of other wearing apparel and accessories	4.3		
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	3.2		
36.1 Manufacture of furniture	3.1		
34.1 Manufacture of motor vehicles	1.9		
27.4 Manufacture of basic precious and non-ferrous metals	1.7		
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	1.7		
15.5 Manufacture of dairy products	1.6		
20.3 Manufacture of builders' carpentry and joinery	1.6		
15.8 Manufacture of other food products	1.4		
24.1 Manufacture of basic chemicals	1.3	Top 3	52.3
25.2 Manufacture of plastic products	1.2	Top 10	69.8
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	1.0	Top 15	76.3

**Lithuania****2004-2006**

23.2 Manufacture of refined petroleum products	25.2		
18.2 Manufacture of other wearing apparel and accessories	7.7		
24.1 Manufacture of basic chemicals	7.7		
36.1 Manufacture of furniture	6.6		
25.2 Manufacture of plastic products	3.4		
31.6 Manufacture of electrical equipment n.e.c.	3.0		
20.1 Sawmilling and planing of wood, impregnation of wood	2.8		
15.5 Manufacture of dairy products	2.7		
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	2.2		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	2.2		
17.2 Textile weaving	1.8		
30.0 Manufacture of office machinery and computers	1.7		
15.8 Manufacture of other food products	1.7	Top 3	40.6
15.7 Manufacture of prepared animal feeds	1.5	Top 10	63.5
27.4 Manufacture of basic precious and non-ferrous metals	1.2	Top 15	71.4



**Poland****2004-2006**

34.1 Manufacture of motor vehicles	12.4		
36.1 Manufacture of furniture	7.5		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	7.0		
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	4.3		
27.4 Manufacture of basic precious and non-ferrous metals	4.2		
24.1 Manufacture of basic chemicals	3.4		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	3.2		
29.7 Manufacture of domestic appliances n.e.c.	2.5		
28.7 Manufacture of other fabricated metal products	2.5		
18.2 Manufacture of other wearing apparel and accessories	2.4		
25.1 Manufacture of rubber products	2.4		
25.2 Manufacture of plastic products	2.3		
15.1 Production, processing and preserving of meat and meat products	1.9	Top 3	26.9
15.8 Manufacture of other food products	1.9	Top 10	49.6
31.6 Manufacture of electrical equipment n.e.c.	1.9	Top 15	60.0

**Romania****2004-2006**

18.2 Manufacture of other wearing apparel and accessories	21.4		
19.3 Manufacture of footwear	9.2		
31.6 Manufacture of electrical equipment n.e.c.	6.5		
36.1 Manufacture of furniture	5.4		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	4.0		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	3.5		
17.7 Manufacture of knitted and crocheted articles	3.1		
27.4 Manufacture of basic precious and non-ferrous metals	3.0		
29.1 Manufacture of machinery for the production and use of mechanical power	2.8		
23.2 Manufacture of refined petroleum products	2.8		
24.1 Manufacture of basic chemicals	2.5		
25.1 Manufacture of rubber products	2.1		
28.7 Manufacture of other fabricated metal products	1.7	Top 3	37.2
29.7 Manufacture of domestic appliances n.e.c.	1.7	Top 10	61.7
31.1 Manufacture of electric motors, generators and transformers	1.6	Top 15	71.4

**Slovak Republic****2004-2006**

34.1 Manufacture of motor vehicles	13.8		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	8.0		
23.2 Manufacture of refined petroleum products	7.2		
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	6.1		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	4.2		
34.2 Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	3.6		
24.1 Manufacture of basic chemicals	3.5		
31.6 Manufacture of electrical equipment n.e.c.	3.5		
29.1 Manufacture of machinery for the production and use of mechanical power	3.5		
25.1 Manufacture of rubber products	2.8		
27.4 Manufacture of basic precious and non-ferrous metals	2.4		
28.7 Manufacture of other fabricated metal products	2.2		
30.0 Manufacture of office machinery and computers	2.1	Top 3	28.9
18.2 Manufacture of other wearing apparel and accessories	2.1	Top 10	56.1
21.1 Manufacture of pulp, paper and paperboard	2.1	Top 15	67.0

**Slovenia****2004-2006**

34.1 Manufacture of motor vehicles	15.4		
36.1 Manufacture of furniture	7.5		
29.7 Manufacture of domestic appliances n.e.c.	5.7		
27.4 Manufacture of basic precious and non-ferrous metals	5.4		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	4.8		
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	3.8		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	3.7		
29.1 Manufacture of machinery for the production and use of mechanical power	3.1		
28.7 Manufacture of other fabricated metal products	2.8		
24.1 Manufacture of basic chemicals	2.8		
25.1 Manufacture of rubber products	2.6		
31.1 Manufacture of electric motors, generators and transformers	2.5		
29.5 Manufacture of other special purpose machinery	2.5	Top 3	28.6
21.1 Manufacture of pulp, paper and paperboard	2.1	Top 10	55.0
31.6 Manufacture of electrical equipment n.e.c.	2.0	Top 15	66.7

Table A.7

**NIS: Main export products to the EU-25 (average export share 2004-2006)****AM Armenia**

	2004-2006		
27.3 Other first processing of iron and steel	32.5		
36.2 Manufacture of jewellery and related articles	25.7		
35.3 Manufacture of aircraft and spacecraft	17.2		
27.4 Manufacture of basic precious and non-ferrous metals	16.8		
18.2 Manufacture of other wearing apparel and accessories	3.8		
24.1 Manufacture of basic chemicals	1.0		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	1.0		
15.9 Manufacture of beverages	0.4		
22.2 Printing and service activities related to printing	0.4		
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.3		
17.5 Manufacture of other textiles	0.2		
26.8 Manufacture of other non-metallic mineral products	0.1		
21.2 Manufacture of articles of paper and paperboard	0.1	Top 3	75.4
34.1 Manufacture of motor vehicles	0.1	Top 10	99.0
15.1 Production, processing and preserving of meat and meat products	0.1	Top 15	99.4

**AZ Azerbaijan**

	2004-2006		
23.2 Manufacture of refined petroleum products	60.2		
36.2 Manufacture of jewellery and related articles	17.1		
24.1 Manufacture of basic chemicals	5.2		
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	3.7		
29.5 Manufacture of other special purpose machinery	2.0		
29.1 Manufacture of machinery for the production and use of mechanical power	2.0		
29.2 Manufacture of other general purpose machinery	1.7		
15.2 Processing and preserving of fish and fish products	1.1		
28.7 Manufacture of other fabricated metal products	0.8		
15.3 Processing and preserving of fruit and vegetables	0.7		
27.4 Manufacture of basic precious and non-ferrous metals	0.6		
29.4 Manufacture of machine- tools	0.6		
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	0.5	Top 3	82.4
17.5 Manufacture of other textiles	0.5	Top 10	94.4
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.4	Top 15	97.0

**BY Belarus**

	2004-2006		
23.2 Manufacture of refined petroleum products	54.6		
24.1 Manufacture of basic chemicals	6.7		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	5.7		
20.1 Sawmilling and planing of wood, impregnation of wood	4.4		
18.2 Manufacture of other wearing apparel and accessories	3.2		
28.7 Manufacture of other fabricated metal products	2.6		
29.3 Manufacture of agricultural and forestry machinery	1.7		
27.3 Other first processing of iron and steel	1.6		
24.7 Manufacture of man-made fibres	1.6		
36.1 Manufacture of furniture	1.3		
15.5 Manufacture of dairy products	1.3		
27.2 Manufacture of tubes	1.3		
17.2 Textile weaving	1.0	Top 3	66.9
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	0.9	Top 10	83.3
34.3 Manufacture of parts and accessories for motor vehicles and their engines	0.8	Top 15	88.5

**GE Georgia****2004-2006**

23.2 Manufacture of refined petroleum products	43.6		
15.9 Manufacture of beverages	14.1		
24.1 Manufacture of basic chemicals	11.3		
27.4 Manufacture of basic precious and non-ferrous metals	8.1		
27.3 Other first processing of iron and steel	7.0		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	3.1		
20.1 Sawmilling and planing of wood, impregnation of wood	1.7		
15.3 Processing and preserving of fruit and vegetables	1.6		
18.2 Manufacture of other wearing apparel and accessories	1.3		
29.5 Manufacture of other special purpose machinery	1.1		
29.1 Manufacture of machinery for the production and use of mechanical power	0.8		
34.1 Manufacture of motor vehicles	0.8		
29.2 Manufacture of other general purpose machinery	0.8	Top 3	68.9
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.6	Top 10	92.8
29.4 Manufacture of machine- tools	0.5	Top 15	96.3

**KG Kyrgyzstan****2004-2006**

18.2 Manufacture of other wearing apparel and accessories	16.5		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	13.2		
27.4 Manufacture of basic precious and non-ferrous metals	13.0		
17.7 Manufacture of knitted and crocheted articles	12.5		
17.1 Preparation and spinning of textile fibres	11.9		
15.3 Processing and preserving of fruit and vegetables	5.6		
29.2 Manufacture of other general purpose machinery	3.3		
23.3 Processing of nuclear fuel	3.2		
15.1 Production, processing and preserving of meat and meat products	2.4		
24.1 Manufacture of basic chemicals	2.4		
34.3 Manufacture of parts and accessories for motor vehicles and their engines	2.3		
31.5 Manufacture of lighting equipment and electric lamps	2.0		
28.6 Manufacture of cutlery, tools and general hardware	1.6	Top 3	42.7
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	1.6	Top 10	84.0
15.8 Manufacture of other food products	0.9	Top 15	92.5

**KZ Kazakhstan****2004-2006**

27.4 Manufacture of basic precious and non-ferrous metals	42.0		
23.2 Manufacture of refined petroleum products	21.0		
27.3 Other first processing of iron and steel	17.8		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	7.4		
24.1 Manufacture of basic chemicals	4.7		
23.3 Processing of nuclear fuel	2.0		
15.2 Processing and preserving of fish and fish products	1.8		
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	0.5		
29.5 Manufacture of other special purpose machinery	0.3		
17.2 Textile weaving	0.3		
19.1 Tanning and dressing of leather	0.3		
35.3 Manufacture of aircraft and spacecraft	0.2		
29.2 Manufacture of other general purpose machinery	0.2	Top 3	80.9
29.1 Manufacture of machinery for the production and use of mechanical power	0.2	Top 10	97.8
15.1 Production, processing and preserving of meat and meat products	0.1	Top 15	98.9

**MD Moldova****2004-2006**

18.2 Manufacture of other wearing apparel and accessories	25.2		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	18.6		
35.3 Manufacture of aircraft and spacecraft	14.4		
19.3 Manufacture of footwear	10.3		
17.4 Manufacture of made-up textile articles, except apparel	7.1		
27.4 Manufacture of basic precious and non-ferrous metals	3.9		
15.3 Processing and preserving of fruit and vegetables	3.9		
15.9 Manufacture of beverages	2.1		
17.7 Manufacture of knitted and crocheted articles	1.9		
19.2 Manufacture of luggage, handbags and the like, saddlery and harness	1.8		
15.4 Manufacture of vegetable and animal oils and fats	1.3		
15.1 Production, processing and preserving of meat and meat products	1.3		
19.1 Tanning and dressing of leather	0.9	Top 3	58.2
15.8 Manufacture of other food products	0.7	Top 10	89.2
17.2 Textile weaving	0.5	Top 15	94.0

**RU Russia****2004-2006**

23.2 Manufacture of refined petroleum products	40.5		
27.4 Manufacture of basic precious and non-ferrous metals	17.9		
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	11.9		
24.1 Manufacture of basic chemicals	8.3		
27.3 Other first processing of iron and steel	3.0		
23.3 Processing of nuclear fuel	2.9		
20.1 Sawmilling and planing of wood, impregnation of wood	2.6		
21.1 Manufacture of pulp, paper and paperboard	1.5		
36.2 Manufacture of jewellery and related articles	1.4		
15.2 Processing and preserving of fish and fish products	1.1		
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	0.8		
35.3 Manufacture of aircraft and spacecraft	0.8		
27.2 Manufacture of tubes	0.6	Top 3	70.3
19.1 Tanning and dressing of leather	0.4	Top 10	91.1
36.1 Manufacture of furniture	0.4	Top 15	94.0

**TJ Tajikistan****2004-2006**

27.4 Manufacture of basic precious and non-ferrous metals	68.6		
27.3 Other first processing of iron and steel	10.1		
18.2 Manufacture of other wearing apparel and accessories	10.0		
17.2 Textile weaving	5.7		
17.1 Preparation and spinning of textile fibres	4.3		
30.0 Manufacture of office machinery and computers	1.0		
26.1 Manufacture of glass and glass products	0.0		
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.0		
28.7 Manufacture of other fabricated metal products	0.0		
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	0.0		
31.5 Manufacture of lighting equipment and electric lamps	0.0		
36.1 Manufacture of furniture	0.0		
32.1 Manufacture of electronic valves and tubes and other electronic components	0.0	Top 3	88.7
19.1 Tanning and dressing of leather	0.0	Top 10	99.7
36.2 Manufacture of jewellery and related articles	0.0	Top 15	99.9

**TM Turkmenistan****2004-2006**

23.2 Manufacture of refined petroleum products	83.3		
17.1 Preparation and spinning of textile fibres	4.0		
17.4 Manufacture of made-up textile articles, except apparel	3.5		
18.2 Manufacture of other wearing apparel and accessories	2.1		
17.2 Textile weaving	2.0		
17.5 Manufacture of other textiles	1.4		
27.4 Manufacture of basic precious and non-ferrous metals	0.7		
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	0.5		
29.5 Manufacture of other special purpose machinery	0.5		
29.2 Manufacture of other general purpose machinery	0.3		
31.6 Manufacture of electrical equipment n.e.c.	0.3		
29.1 Manufacture of machinery for the production and use of mechanical power	0.3		
17.6 Manufacture of knitted and crocheted fabrics	0.2	Top 3	90.9
28.6 Manufacture of cutlery, tools and general hardware	0.1	Top 10	98.5
30.0 Manufacture of office machinery and computers	0.1	Top 15	99.6

**UA Ukraine****2004-2006**

27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	26.8		
23.2 Manufacture of refined petroleum products	8.8		
27.3 Other first processing of iron and steel	8.1		
24.1 Manufacture of basic chemicals	7.8		
18.2 Manufacture of other wearing apparel and accessories	6.8		
15.4 Manufacture of vegetable and animal oils and fats	4.4		
27.4 Manufacture of basic precious and non-ferrous metals	3.4		
27.2 Manufacture of tubes	3.3		
20.1 Sawmilling and planing of wood, impregnation of wood	3.0		
31.6 Manufacture of electrical equipment n.e.c.	2.2		
19.1 Tanning and dressing of leather	1.5		
35.3 Manufacture of aircraft and spacecraft	1.3		
23.1 Manufacture of coke oven products	1.1	Top 3	43.7
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	1.0	Top 10	74.5
15.5 Manufacture of dairy products	1.0	Top 15	80.4

**UZ Uzbekistan****2004-2006**

27.4 Manufacture of basic precious and non-ferrous metals	59.3		
17.1 Preparation and spinning of textile fibres	11.4		
23.3 Processing of nuclear fuel	8.4		
17.2 Textile weaving	5.3		
24.1 Manufacture of basic chemicals	4.5		
23.2 Manufacture of refined petroleum products	4.4		
35.3 Manufacture of aircraft and spacecraft	1.3		
18.2 Manufacture of other wearing apparel and accessories	1.0		
15.3 Processing and preserving of fruit and vegetables	0.9		
15.1 Production, processing and preserving of meat and meat products	0.7		
15.4 Manufacture of vegetable and animal oils and fats	0.5		
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	0.3		
29.1 Manufacture of machinery for the production and use of mechanical power	0.2	Top 3	79.2
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	0.2	Top 10	97.3
29.2 Manufacture of other general purpose machinery	0.2	Top 15	98.7

Table A.8

**NIS: Main export products to the World, 2006**

ARM	Product Code	Description	Trade Value (\$ '000)		
	Total	Total	1003961,105	100,00	
	667	Pearls/precious stones	246984,83	24,60	
	671	Pig iron etc ferro alloy	161041,822	16,04	
	112	Alcoholic beverages	74954,218	7,47	
	283	Copper ores/concentrates	72782,722	7,25	
	682	Copper	71741,766	7,15	
	971	Gold non-monetary ex ore	36695,896	3,66	
	897	Jewellery	35583,184	3,54	
	661	Lime/cement/constr mat"l	25138,435	2,50	
	232	Rubber synth/waste/etc	24170,79	2,41	
	287	Base metal ore/conc nes	20518,826	2,04	
	845	Articles of apparel nes	20409,214	2,03	
	689	Misc non-ferr base metal	19950,659	1,99	
	931	UN Special Code	19262,436	1,92	<b>Top 3 48,11</b>
	885	Watches and clocks	18837,438	1,88	<b>Top 10 76,66</b>
	351	Electric current	17416,912	1,73	<b>Top 15 86,21</b>
<b>AZE</b>	<b>Product Code</b>	<b>Description</b>	<b>Trade Value (\$ '000)</b>		
	Total	Total	6372157,02	100,00	
	333	Petrol./bitum. oil,crude	3848498,475	60,40	
	334	Heavy petrol/bitum oils	1505493,351	23,63	
	285	Aluminium ores/concs/etc	154946,38	2,43	
	057	Fruit/nuts, fresh/dried	98702,773	1,55	
	793	Ships/boats/etc	73228,597	1,15	
	684	Aluminium	71119,229	1,12	
	571	Primary ethylene polymer	59326,489	0,93	
	263	Cotton	39251,625	0,62	
	054	Vegetables,frsh/chld/frz	34427,332	0,54	
	061	Sugar/mollasses/honey	31065,243	0,49	
	431	Animal/veg oils proces"d	26318,553	0,41	
	575	Plastic nes-primary form	23359,72	0,37	
	679	Iron/steel pipe/tube/etc	23315,573	0,37	<b>Top 3 86,45</b>
	676	Iron/steel bars/rods/etc	22841,502	0,36	<b>Top 10 92,84</b>
	421	Fixed veg oil/fat, soft	20785,995	0,33	<b>Top 15 94,67</b>
<b>BLR</b>	<b>Product Code</b>	<b>Description</b>	<b>Trade Value (\$ '000)</b>		
	Total	Total	19738543,4	100,00	
	334	Heavy petrol/bitum oils	6731352,6	34,10	
	562	Manufactured fertilizers	1131733,9	5,73	
	782	Goods/service vehicles	759584	3,85	
	722	Tractors	586464,8	2,97	
	333	Petrol./bitum. oil,crude	503589,4	2,55	
	625	Rubber tyres/treads	419426,1	2,12	
	676	Iron/steel bars/rods/etc	399103	2,02	
	775	Domestic equipment	321222,8	1,63	
	931	UN Special Code	312709,5	1,58	
	821	Furniture/stuff furnishg	302340,3	1,53	
	783	Road motor vehicles nes	298695,5	1,51	
	022	Milk pr exc buttr/cheese	286003,8	1,45	
	672	Primary/prods iron/steel	253030,2	1,28	<b>Top 3 43,68</b>
	784	Motor veh parts/access	248330,8	1,26	<b>Top 10 58,10</b>
	024	Cheese and curd	215309,8	1,09	<b>Top 15 64,69</b>

GEO	Product Code	Description	Trade Value (\$ '000)			
	Total	Total	991511,351	100,00		
	671	Pig iron etc ferro alloy	89792,442	9,06		
	283	Copper ores/concentrates	79536,061	8,02		
	112	Alcoholic beverages	72464,916	7,31		
	282	Ferrous waste/scrap	72427,379	7,30		
	057	Fruit/nuts, fresh/dried	61657,292	6,22		
	792	Aircraft/spacecraft/etc	53105,278	5,36		
	781	Passenger cars etc	50634,794	5,11		
	971	Gold non-monetary ex ore	48338,632	4,88		
	111	Beverage non-alcohol nes	47092,862	4,75		
	562	Manufactured fertilizers	46632,366	4,70		
	288	Nf base metal waste nes	44946,373	4,53		
	661	Lime/cement/constr mat'l	28950,936	2,92		
	723	Civil engineering plant	28291,595	2,85	<b>Top 3</b>	<b>24,39</b>
	333	Petrol./bitum. oil,crude	25431,427	2,56	<b>Top 10</b>	<b>62,70</b>
	782	Goods/service vehicles	18912,463	1,91	<b>Top 15</b>	<b>77,48</b>
KAZ	Product Code	Description	Trade Value (\$ '000)			
	Total	Total	38244423,1	100,00		
	333	Petrol./bitum. oil,crude	23611992,55	61,74		
	682	Copper	2620861,69	6,85		
	334	Heavy petrol/bitum oils	1195183,848	3,13		
	671	Pig iron etc ferro alloy	949833,326	2,48		
	686	Zinc	803674,188	2,10		
	281	Iron ore/concentrates	674857,235	1,76		
	525	Radio-active etc matrial	574300,876	1,50		
	343	Natural gas	542090,719	1,42		
	673	Flat rolled iron/st prod	533497,456	1,39		
	041	Wheat/meslin	522754,712	1,37		
	285	Aluminium ores/concs/etc	522491,685	1,37		
	321	Coal non-agglomerated	479850,813	1,25		
	971	Gold non-monetary ex ore	402967,631	1,05	<b>Top 3</b>	<b>71,72</b>
	674	Rolled plated m-steel	399125,79	1,04	<b>Top 10</b>	<b>83,75</b>
	342	Liquid propane/butane	332557,912	0,87	<b>Top 15</b>	<b>89,34</b>
MDA	Product Code	Description	Trade Value (\$ '000)			
	Total	Total	1051600,71	100,00		
	112	Alcoholic beverages	186161,827	17,70		
	057	Fruit/nuts, fresh/dried	64217,882	6,11		
	842	Women/girl clothing wven	58487,008	5,56		
	845	Articles of apparel nes	55055,174	5,24		
	841	Mens/boys wear, woven	50153,28	4,77		
	421	Fixed veg oil/fat, soft	34762,616	3,31		
	851	Footwear	30750,954	2,92		
	676	Iron/steel bars/rods/etc	30161,481	2,87		
	665	Glassware	27746,443	2,64		
	844	Women/girl wear knit/cro	24823,108	2,36		
	273	Stone/sand/gravel	22730,201	2,16		
	222	Oil seeds etc - soft oil	21927,745	2,09		
	041	Wheat/meslin	21605,735	2,05	<b>Top 3</b>	<b>29,37</b>
	699	Base metal manufac nes	20535,643	1,95	<b>Top 10</b>	<b>53,47</b>
	659	Floor coverings etc.	20112,916	1,91	<b>Top 15</b>	<b>63,64</b>



RUS	Product Code	Description	Trade Value (\$ '000)		
	Total	Total	301550665,5	100,00	
	333	Petrol./bitum. oil,crude	96675117,52	32,06	
	334	Heavy petrol/bitum oils	44222559,9	14,67	
	343	Natural gas	42840497,9	14,21	
	931	UN Special Code	25780689,82	8,55	
	684	Aluminium	7529604,978	2,50	
	683	Nickel	6014063,487	1,99	
	672	Primary/prods iron/steel	5435354,114	1,80	
	682	Copper	4471610,304	1,48	
	321	Coal non-agglomerated	4341466,237	1,44	
	562	Manufactured fertilizers	4077293,908	1,35	
	673	Flat rolled iron/st prod	4009890,073	1,33	
	247	Wood in rough/squared	3260265,717	1,08	
	671	Pig iron etc ferro alloy	2726726,506	0,90	<b>Top 3 60,93</b>
	248	Wood simply worked	2371273,119	0,79	<b>Top 10 80,05</b>
	282	Ferrous waste/scrap	2032471,216	0,67	<b>Top 15 84,82</b>
TJK 2000	Product Code	Description	Trade Value (\$ '000)		
	Total	Total	692346	100,00	
	684	Aluminium	371469	53,65	
	351	Electric current	91932	13,28	
	263	Cotton	83080	12,00	
	792	Aircraft/spacecraft/etc	36655	5,29	
	971	Gold non-monetary ex ore	24168	3,49	
	057	Fruit/nuts, fresh/dried	14661	2,12	
	716	Rotating electr plant	11222	1,62	
	652	Cotton fabrics, woven	10585	1,53	
	593	Explosives/pyrotechnics	8208	1,19	
	651	Textile yarn	6912	1,00	
	121	Tobacco, raw and wastes	5685	0,82	
	841	Mens/boys wear, woven	4638	0,67	
	059	Fruit/veg juices	3166	0,46	<b>Top 3 78,93</b>
	056	Veg root/tuber prep/pres	2432	0,35	<b>Top 10 95,17</b>
	781	Passenger cars etc	2379	0,34	<b>Top 15 97,81</b>
TKM 2000	Product Code	Description	Trade Value (\$ '000)		
	Total	Total	2505545,216	100,00	
	343	Natural gas	1244398,592	49,67	
	334	Heavy petrol/bitum oils	513099,616	20,48	
	333	Petrol./bitum. oil,crude	241927,056	9,66	
	263	Cotton	233439,328	9,32	
	651	Textile yarn	54554,86	2,18	
	931	UN Special Code	38029,96	1,52	
	652	Cotton fabrics, woven	29465,03	1,18	
	845	Articles of apparel nes	21540,786	0,86	
	351	Electric current	16439,915	0,66	
	655	Knit/crochet fabrics	14943,699	0,60	
	792	Aircraft/spacecraft/etc	10943,703	0,44	
	841	Mens/boys wear, woven	10573,192	0,42	
	335	Residual petrol. prods	9388,135	0,37	<b>Top 3 79,80</b>
	522	Elements/oxides/hal salt	6784,281	0,27	<b>Top 10 96,10</b>
	288	Nf base metal waste nes	6410	0,26	<b>Top 15 97,86</b>

UKR	Product Code	Description	Trade Value (\$ '000)			
	Total	Total	38367609,3	100,00		
	672	Primary/prods iron/steel	4363771,895	11,37		
	673	Flat rolled iron/st prod	3555439,707	9,27		
	676	Iron/steel bars/rods/etc	3077510,563	8,02		
	679	Iron/steel pipe/tube/etc	1901818,524	4,96		
	334	Heavy petrol/bitum oils	1666836,029	4,34		
	671	Pig iron etc ferro alloy	1147309,816	2,99		
	791	Railway vehicles/equipmt	1055121,124	2,75		
	562	Manufactured fertilizers	994425,515	2,59		
	421	Fixed veg oil/fat, soft	934171,986	2,43		
	281	Iron ore/concentrates	803442,185	2,09		
	041	Wheat/meslin	595813,336	1,55		
	522	Elements/oxides/hal salt	570042,504	1,49		
	043	Barley grain	566151,894	1,48	<b>Top 3</b>	<b>28,66</b>
	675	Flat rolled alloy steel	450855,8	1,18	<b>Top 10</b>	<b>50,82</b>
	931	UN Special Code	402768,917	1,05	<b>Top 15</b>	<b>57,56</b>

Table A.9

**NMS: Changes of export shares to EU-25, 2000-2006**

<b>Bulgaria</b>	percentage point change 2000-2006
27.4 Manufacture of basic precious and non-ferrous metals	1.8
17.1 Preparation and spinning of textile fibres	1.7
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	1.1
29.7 Manufacture of domestic appliances n.e.c.	1.1
31.6 Manufacture of electrical equipment n.e.c.	1.1
31.2 Manufacture of electricity distribution and control apparatus	0.9
23.2 Manufacture of refined petroleum products	0.8
36.1 Manufacture of furniture	0.7
29.5 Manufacture of other special purpose machinery	0.7
26.1 Manufacture of glass and glass products	0.6
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29.4 Manufacture of machine- tools	-0.3
26.2 Manufacture of non-refractory ceramic goods other than for construction purposes; manufacture of refractory ceramic products	-0.4
21.1 Manufacture of pulp, paper and paperboard	-0.4
19.3 Manufacture of footwear	-0.4
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	-0.5
35.3 Manufacture of aircraft and spacecraft	-0.7
15.9 Manufacture of beverages	-1.7
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-1.9
24.1 Manufacture of basic chemicals	-3.1
18.2 Manufacture of other wearing apparel and accessories	-5.1
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<b>Czech Republic</b>	Percentage point change 2000-2006
30.0 Manufacture of office machinery and computers	6.8
34.3 Manufacture of parts and accessories for motor vehicles and their engines	2.7
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	2.2
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	1.1
29.2 Manufacture of other general purpose machinery	0.8
36.5 Manufacture of games and toys	0.8
24.6 Manufacture of other chemical products	0.4
15.8 Manufacture of other food products	0.4
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	0.3
29.7 Manufacture of domestic appliances n.e.c.	0.3
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34.1 Manufacture of motor vehicles	-0.6
28.1 Manufacture of structural metal products	-0.7
26.1 Manufacture of glass and glass products	-0.7
17.2 Textile weaving	-0.8
29.5 Manufacture of other special purpose machinery	-0.8
21.1 Manufacture of pulp, paper and paperboard	-0.8
18.2 Manufacture of other wearing apparel and accessories	-0.8
28.7 Manufacture of other fabricated metal products	-0.9
32.1 Manufacture of electronic valves and tubes and other electronic components	-0.9
36.1 Manufacture of furniture	-1.0
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<b>Estonia</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	10.6
34.1 Manufacture of motor vehicles	5.1
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	2.5
34.3 Manufacture of parts and accessories for motor vehicles and their engines	1.5
31.1 Manufacture of electric motors, generators and transformers	1.4
29.2 Manufacture of other general purpose machinery	1.1
25.2 Manufacture of plastic products	1.1
31.2 Manufacture of electricity distribution and control apparatus	0.9
24.3 Manufacture of paints, varnishes and similar coatings, printing ink and mastics	0.6
31.5 Manufacture of lighting equipment and electric lamps	0.6

<b>Estonia</b>	Percentage point change 2000-2006
19.3 Manufacture of footwear	-0.5
17.1 Preparation and spinning of textile fibres	-0.5
36.1 Manufacture of furniture	-0.6
31.3 Manufacture of insulated wire and cable	-0.7
17.2 Textile weaving	-1.2
20.1 Sawmilling and planing of wood, impregnation of wood	-1.3
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	-1.9
27.4 Manufacture of basic precious and non-ferrous metals	-1.9
18.2 Manufacture of other wearing apparel and accessories	-2.6
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	-19.3
<b>Hungary</b>	Percentage point change 2000-2006
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	4.3
29.1 Manufacture of machinery for the production and use of mechanical power	1.5
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	1.1
34.3 Manufacture of parts and accessories for motor vehicles and their engines	1.0
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	0.9
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	0.9
29.2 Manufacture of other general purpose machinery	0.5
21.1 Manufacture of pulp, paper and paperboard	0.5
34.1 Manufacture of motor vehicles	0.4
23.2 Manufacture of refined petroleum products	0.4
21.2 Manufacture of articles of paper and paperboard	-0.3
17.7 Manufacture of knitted and crocheted articles	-0.3
31.1 Manufacture of electric motors, generators and transformers	-0.4
31.5 Manufacture of lighting equipment and electric lamps	-0.8
24.1 Manufacture of basic chemicals	-0.8
19.3 Manufacture of footwear	-0.9
15.1 Production, processing and preserving of meat and meat products	-0.9
31.6 Manufacture of electrical equipment n.e.c.	-1.2
18.2 Manufacture of other wearing apparel and accessories	-2.0
30.0 Manufacture of office machinery and computers	-3.9
<b>Latvia</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	12.3
34.1 Manufacture of motor vehicles	3.3
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	2.5
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	1.2
15.8 Manufacture of other food products	1.0
15.5 Manufacture of dairy products	1.0
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	0.9
24.1 Manufacture of basic chemicals	0.8
34.3 Manufacture of parts and accessories for motor vehicles and their engines	0.6
32.1 Manufacture of electronic valves and tubes and other electronic components	0.6
17.7 Manufacture of knitted and crocheted articles	-0.6
17.4 Manufacture of made-up textile articles, except apparel	-0.8
17.1 Preparation and spinning of textile fibres	-1.0
20.3 Manufacture of builders' carpentry and joinery	-1.1
36.1 Manufacture of furniture	-1.1
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	-1.8
27.4 Manufacture of basic precious and non-ferrous metals	-2.1
17.2 Textile weaving	-2.3
18.2 Manufacture of other wearing apparel and accessories	-5.6
20.1 Sawmilling and planing of wood, impregnation of wood	-14.0

<b>Lithuania</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	8.8
36.1 Manufacture of furniture	2.7
25.2 Manufacture of plastic products	2.4
30.0 Manufacture of office machinery and computers	2.0
15.5 Manufacture of dairy products	1.1
15.8 Manufacture of other food products	0.9
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	0.7
15.2 Processing and preserving of fish and fish products	0.7
34.2 Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	0.7
31.3 Manufacture of insulated wire and cable	0.6
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	-0.7
17.7 Manufacture of knitted and crocheted articles	-0.7
24.7 Manufacture of man-made fibres	-0.8
19.1 Tanning and dressing of leather	-0.8
17.4 Manufacture of made-up textile articles, except apparel	-0.9
17.2 Textile weaving	-1.3
32.1 Manufacture of electronic valves and tubes and other electronic components	-1.5
20.1 Sawmilling and planing of wood, impregnation of wood	-1.6
27.4 Manufacture of basic precious and non-ferrous metals	-5.8
18.2 Manufacture of other wearing apparel and accessories	-10.8
<b>Poland</b>	Percentage point change 2000-2006
34.3 Manufacture of parts and accessories for motor vehicles and their engines	3.2
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	2.2
29.7 Manufacture of domestic appliances n.e.c.	1.8
15.1 Production, processing and preserving of meat and meat products	1.2
15.5 Manufacture of dairy products	0.9
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.9
25.1 Manufacture of rubber products	0.7
15.8 Manufacture of other food products	0.7
28.6 Manufacture of cutlery, tools and general hardware	0.6
25.2 Manufacture of plastic products	0.6
28.1 Manufacture of structural metal products	-0.5
35.1 Building and repairing of ships and boats	-0.5
17.4 Manufacture of made-up textile articles, except apparel	-0.5
21.1 Manufacture of pulp, paper and paperboard	-0.5
15.3 Processing and preserving of fruit and vegetables	-0.6
28.7 Manufacture of other fabricated metal products	-0.7
20.5 Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials	-0.9
24.1 Manufacture of basic chemicals	-0.9
36.1 Manufacture of furniture	-1.6
18.2 Manufacture of other wearing apparel and accessories	-5.3
<b>Romania</b>	Percentage point change 2000-2006
31.6 Manufacture of electrical equipment n.e.c.	4.7
34.3 Manufacture of parts and accessories for motor vehicles and their engines	3.3
31.3 Manufacture of insulated wire and cable	1.7
25.1 Manufacture of rubber products	1.6
31.2 Manufacture of electricity distribution and control apparatus	1.4
29.1 Manufacture of machinery for the production and use of mechanical power	1.4
23.2 Manufacture of refined petroleum products	1.2
34.1 Manufacture of motor vehicles	1.2
28.7 Manufacture of other fabricated metal products	0.8
29.2 Manufacture of other general purpose machinery	0.8
26.1 Manufacture of glass and glass products	-0.4
24.1 Manufacture of basic chemicals	-0.6
35.1 Building and repairing of ships and boats	-0.8

<b>Romania</b>	Percentage point change 2000-2006
20.1 Sawmilling and planing of wood, impregnation of wood	-0.8
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	-0.9
27.4 Manufacture of basic precious and non-ferrous metals	-1.3
17.7 Manufacture of knitted and crocheted articles	-1.9
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	-1.9
19.3 Manufacture of footwear	-2.6
18.2 Manufacture of other wearing apparel and accessories	-10.5
<b>Slovak Republic</b>	Percentage point change 2000-2006
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	9.0
34.2 Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	2.0
25.1 Manufacture of rubber products	1.2
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	0.7
30.0 Manufacture of office machinery and computers	0.5
15.8 Manufacture of other food products	0.5
28.2 Manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers	0.5
28.6 Manufacture of cutlery, tools and general hardware	0.5
29.1 Manufacture of machinery for the production and use of mechanical power	0.4
15.5 Manufacture of dairy products	0.3
21.2 Manufacture of articles of paper and paperboard	-0.5
31.1 Manufacture of electric motors, generators and transformers	-0.5
31.6 Manufacture of electrical equipment n.e.c.	-0.5
20.1 Sawmilling and planing of wood, impregnation of wood	-0.6
24.7 Manufacture of man-made fibres	-0.7
19.3 Manufacture of footwear	-0.8
27.3 Other first processing of iron and steel	-1.0
24.1 Manufacture of basic chemicals	-1.8
34.1 Manufacture of motor vehicles	-2.4
18.2 Manufacture of other wearing apparel and accessories	-2.5
<b>Slovenia</b>	Percentage point change 2000-2006
34.1 Manufacture of motor vehicles	3.8
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	2.4
34.3 Manufacture of parts and accessories for motor vehicles and their engines	1.3
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	1.3
27.4 Manufacture of basic precious and non-ferrous metals	1.2
29.1 Manufacture of machinery for the production and use of mechanical power	0.8
25.1 Manufacture of rubber products	0.7
15.4 Manufacture of vegetable and animal oils and fats	0.7
28.7 Manufacture of other fabricated metal products	0.6
29.5 Manufacture of other special purpose machinery	0.6
29.4 Manufacture of machine- tools	-0.5
21.2 Manufacture of articles of paper and paperboard	-0.5
17.2 Textile weaving	-0.5
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	-0.6
17.4 Manufacture of made-up textile articles, except apparel	-0.7
32.1 Manufacture of electronic valves and tubes and other electronic components	-0.8
21.1 Manufacture of pulp, paper and paperboard	-1.0
20.3 Manufacture of builders' carpentry and joinery	-1.1
36.1 Manufacture of furniture	-1.4
18.2 Manufacture of other wearing apparel and accessories	-3.2

Table A.10

**NIS: Changes of export shares to EU-25, 2000-2006**

<b>AM Armenia</b>	Percentage point change 2000-2006
27.3 Other first processing of iron and steel	33.8
27.4 Manufacture of basic precious and non-ferrous metals	5.3
24.1 Manufacture of basic chemicals	2.5
18.2 Manufacture of other wearing apparel and accessories	1.8
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.1
17.5 Manufacture of other textiles	0.0
26.7 Cutting, shaping and finishing of stone	0.0
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	0.0
31.6 Manufacture of electrical equipment n.e.c.	0.0
34.1 Manufacture of motor vehicles	0.0
17.7 Manufacture of knitted and crocheted articles	0.0
33.4 Manufacture of optical instruments and photographic equipment	0.0
20.1 Sawmilling and planing of wood, impregnation of wood	-0.1
29.5 Manufacture of other special purpose machinery	-0.2
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	-0.2
35.3 Manufacture of aircraft and spacecraft	-0.4
32.1 Manufacture of electronic valves and tubes and other electronic components	-0.4
22.2 Printing and service activities related to printing	-0.8
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-0.9
36.2 Manufacture of jewellery and related articles	-40.8
<b>AZ Azerbaijan</b>	Percentage point change 2000-2006
36.2 Manufacture of jewellery and related articles	37.5
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	0.9
33.5 Manufacture of watches and clocks	0.5
29.2 Manufacture of other general purpose machinery	0.4
28.7 Manufacture of other fabricated metal products	0.3
28.2 Manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers	0.1
31.1 Manufacture of electric motors, generators and transformers	0.1
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	0.1
15.1 Production, processing and preserving of meat and meat products	0.1
24.6 Manufacture of other chemical products	0.0
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	-0.2
28.6 Manufacture of cutlery, tools and general hardware	-0.2
30.0 Manufacture of office machinery and computers	-0.3
25.1 Manufacture of rubber products	-0.3
27.3 Other first processing of iron and steel	-0.4
35.1 Building and repairing of ships and boats	-0.4
15.2 Processing and preserving of fish and fish products	-0.6
17.5 Manufacture of other textiles	-0.8
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-1.0
23.2 Manufacture of refined petroleum products	-34.3
<b>BY Belarus</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	40.6
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	2.9
27.2 Manufacture of tubes	0.8
19.1 Tanning and dressing of leather	0.4
20.3 Manufacture of builders' carpentry and joinery	0.2
15.4 Manufacture of vegetable and animal oils and fats	0.2
28.6 Manufacture of cutlery, tools and general hardware	0.2
29.3 Manufacture of agricultural and forestry machinery	0.1

<b>BY Belarus</b>	Percentage point change 2000-2006
35.2 Manufacture of railway and tramway locomotives and rolling stock	0.1
31.3 Manufacture of insulated wire and cable	0.0
36.1 Manufacture of furniture	-1.2
17.2 Textile weaving	-1.2
28.7 Manufacture of other fabricated metal products	-1.3
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	-1.8
29.7 Manufacture of domestic appliances n.e.c.	-1.8
27.4 Manufacture of basic precious and non-ferrous metals	-2.0
24.7 Manufacture of man-made fibres	-2.6
20.1 Sawmilling and planing of wood, impregnation of wood	-4.1
18.2 Manufacture of other wearing apparel and accessories	-8.0
24.1 Manufacture of basic chemicals	-9.4
<b>GE Georgia</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	27.1
15.9 Manufacture of beverages	10.0
27.3 Other first processing of iron and steel	1.3
15.3 Processing and preserving of fruit and vegetables	1.0
29.1 Manufacture of machinery for the production and use of mechanical power	0.7
20.1 Sawmilling and planing of wood, impregnation of wood	0.6
29.4 Manufacture of machine- tools	0.4
15.6 Manufacture of grain mill products, starches and starch products	0.3
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	0.1
20.3 Manufacture of builders' carpentry and joinery	0.1
24.5 Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	-0.3
24.1 Manufacture of basic chemicals	-0.4
15.1 Production, processing and preserving of meat and meat products	-0.4
15.8 Manufacture of other food products	-0.5
22.2 Printing and service activities related to printing	-1.0
19.1 Tanning and dressing of leather	-1.0
18.2 Manufacture of other wearing apparel and accessories	-1.7
29.2 Manufacture of other general purpose machinery	-2.3
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-13.8
27.4 Manufacture of basic precious and non-ferrous metals	-18.2
<b>KG Kyrgyzstan</b>	Percentage point change 2000-2006
17.1 Preparation and spinning of textile fibres	14.3
29.2 Manufacture of other general purpose machinery	9.7
23.3 Processing of nuclear fuel	9.6
15.3 Processing and preserving of fruit and vegetables	6.2
24.1 Manufacture of basic chemicals	4.6
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	4.3
34.3 Manufacture of parts and accessories for motor vehicles and their engines	2.7
24.6 Manufacture of other chemical products	2.5
31.1 Manufacture of electric motors, generators and transformers	2.3
28.6 Manufacture of cutlery, tools and general hardware	2.2
26.1 Manufacture of glass and glass products	0.0
34.1 Manufacture of motor vehicles	0.0
29.3 Manufacture of agricultural and forestry machinery	0.0
19.1 Tanning and dressing of leather	0.0
34.2 Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	0.0
17.2 Textile weaving	-0.1
20.1 Sawmilling and planing of wood, impregnation of wood	-0.1
15.5 Manufacture of dairy products	-0.2
15.4 Manufacture of vegetable and animal oils and fats	-0.3
27.4 Manufacture of basic precious and non-ferrous metals	-69.7



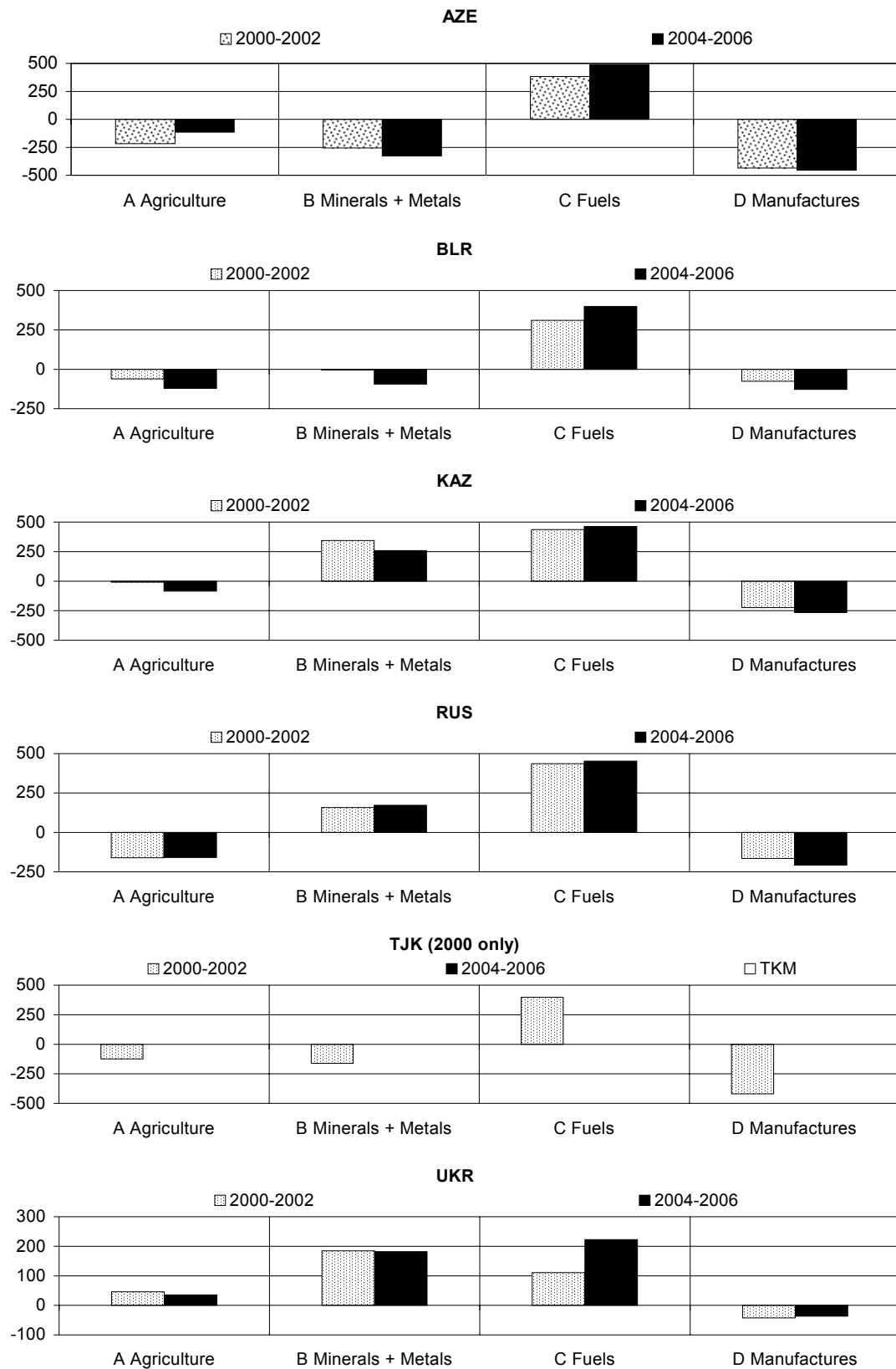
<b>KZ Kazakhstan</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	10.2
27.4 Manufacture of basic precious and non-ferrous metals	2.9
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	1.4
15.2 Processing and preserving of fish and fish products	1.2
17.2 Textile weaving	0.3
19.1 Tanning and dressing of leather	0.3
17.1 Preparation and spinning of textile fibres	0.1
35.3 Manufacture of aircraft and spacecraft	0.1
26.8 Manufacture of other non-metallic mineral products	0.0
31.6 Manufacture of electrical equipment n.e.c.	0.0
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15.4 Manufacture of vegetable and animal oils and fats	-0.2
24.2 Manufacture of pesticides and other agro-chemical products	-0.2
29.1 Manufacture of machinery for the production and use of mechanical power	-0.2
29.5 Manufacture of other special purpose machinery	-0.4
15.1 Production, processing and preserving of meat and meat products	-1.3
32.1 Manufacture of electronic valves and tubes and other electronic components	-1.6
24.1 Manufacture of basic chemicals	-1.7
30.0 Manufacture of office machinery and computers	-2.7
23.3 Processing of nuclear fuel	-3.7
27.3 Other first processing of iron and steel	-3.7
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<b>MD Moldova</b>	Percentage point change 2000-2006
35.3 Manufacture of aircraft and spacecraft	11.7
19.3 Manufacture of footwear	5.6
15.4 Manufacture of vegetable and animal oils and fats	1.8
15.3 Processing and preserving of fruit and vegetables	1.7
25.2 Manufacture of plastic products	0.7
28.6 Manufacture of cutlery, tools and general hardware	0.5
17.6 Manufacture of knitted and crocheted fabrics	0.3
17.7 Manufacture of knitted and crocheted articles	0.3
15.8 Manufacture of other food products	0.3
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	0.3
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27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-0.5
20.3 Manufacture of builders' carpentry and joinery	-0.5
29.5 Manufacture of other special purpose machinery	-0.9
27.4 Manufacture of basic precious and non-ferrous metals	-1.5
19.2 Manufacture of luggage, handbags and the like, saddlery and harness	-1.6
26.5 Manufacture of cement, lime and plaster	-1.8
15.9 Manufacture of beverages	-2.2
15.1 Production, processing and preserving of meat and meat products	-3.7
17.2 Textile weaving	-4.1
18.2 Manufacture of other wearing apparel and accessories	-7.1
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<b>RU Russia</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	16.8
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	2.4
27.3 Other first processing of iron and steel	1.2
15.4 Manufacture of vegetable and animal oils and fats	0.3
19.1 Tanning and dressing of leather	0.2
23.3 Processing of nuclear fuel	0.2
25.1 Manufacture of rubber products	0.1
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.1
35.2 Manufacture of railway and tramway locomotives and rolling stock	0.1
27.2 Manufacture of tubes	0.1
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20.1 Sawmilling and planing of wood, impregnation of wood	-0.4
35.3 Manufacture of aircraft and spacecraft	-0.4
15.5 Manufacture of dairy products	-0.5
36.2 Manufacture of jewellery and related articles	-0.5
18.2 Manufacture of other wearing apparel and accessories	-0.6
15.1 Production, processing and preserving of meat and meat products	-0.8

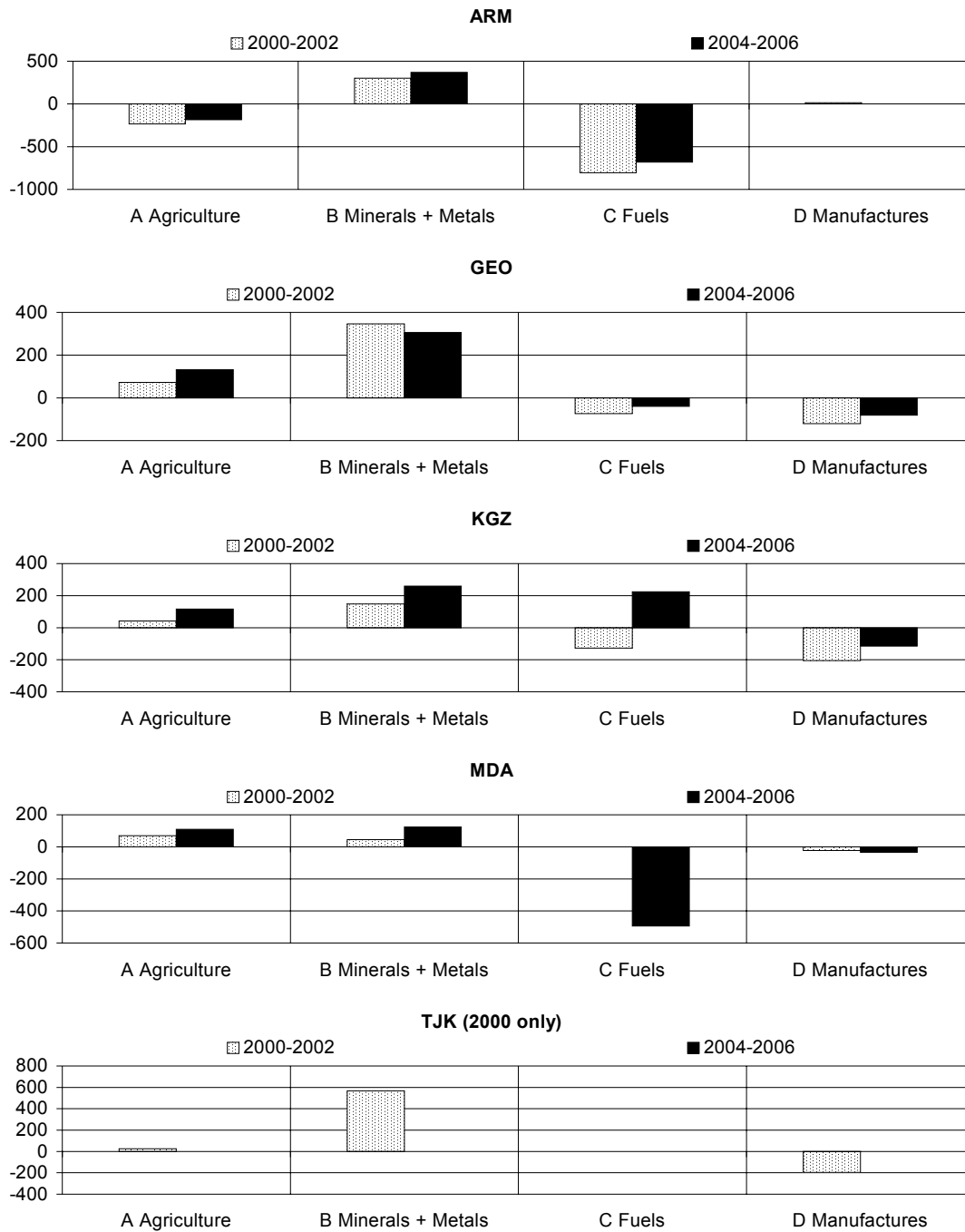
<b>RU Russia</b>	Percentage point change 2000-2006
24.1 Manufacture of basic chemicals	-1.3
15.2 Processing and preserving of fish and fish products	-1.3
21.1 Manufacture of pulp, paper and paperboard	-1.6
27.4 Manufacture of basic precious and non-ferrous metals	-11.8
<b>TJ Tajikistan</b>	Percentage point change 2000-2006
27.4 Manufacture of basic precious and non-ferrous metals	34.0
27.3 Other first processing of iron and steel	0.3
36.1 Manufacture of furniture	0.1
28.7 Manufacture of other fabricated metal products	0.1
35.3 Manufacture of aircraft and spacecraft	0.0
19.2 Manufacture of luggage, handbags and the like, saddlery and harness	0.0
29.4 Manufacture of machine- tools	0.0
36.2 Manufacture of jewellery and related articles	0.0
29.1 Manufacture of machinery for the production and use of mechanical power	0.0
32.1 Manufacture of electronic valves and tubes and other electronic components	0.0
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	0.0
32.2 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.0
17.7 Manufacture of knitted and crocheted articles	-0.1
17.5 Manufacture of other textiles	-0.1
15.3 Processing and preserving of fruit and vegetables	-0.1
36.4 Manufacture of sports goods	-0.1
17.4 Manufacture of made-up textile articles, except apparel	-0.6
17.1 Preparation and spinning of textile fibres	-6.3
18.2 Manufacture of other wearing apparel and accessories	-6.4
17.2 Textile weaving	-20.5
<b>TM Turkmenistan</b>	Percentage point change 2000-2006
23.2 Manufacture of refined petroleum products	6.5
17.4 Manufacture of made-up textile articles, except apparel	3.7
18.2 Manufacture of other wearing apparel and accessories	1.6
17.2 Textile weaving	0.7
31.6 Manufacture of electrical equipment n.e.c.	0.2
33.2 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	0.1
29.1 Manufacture of machinery for the production and use of mechanical power	0.0
28.6 Manufacture of cutlery, tools and general hardware	0.0
34.2 Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	0.0
30.0 Manufacture of office machinery and computers	0.0
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-0.2
29.5 Manufacture of other special purpose machinery	-0.3
26.5 Manufacture of cement, lime and plaster	-0.3
27.4 Manufacture of basic precious and non-ferrous metals	-0.4
15.8 Manufacture of other food products	-0.6
29.2 Manufacture of other general purpose machinery	-0.7
24.1 Manufacture of basic chemicals	-0.8
17.5 Manufacture of other textiles	-1.4
17.6 Manufacture of knitted and crocheted fabrics	-3.6
17.1 Preparation and spinning of textile fibres	-4.2
<b>UA Ukraine</b>	Percentage point change 2000-2006
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	7.0
27.3 Other first processing of iron and steel	5.2
15.4 Manufacture of vegetable and animal oils and fats	4.5
27.2 Manufacture of tubes	2.4
31.6 Manufacture of electrical equipment n.e.c.	1.9
24.6 Manufacture of other chemical products	0.9
28.1 Manufacture of structural metal products	0.7
23.2 Manufacture of refined petroleum products	0.6
25.2 Manufacture of plastic products	0.5

<b>UA Ukraine</b>	Percentage point change 2000-2006
20.2 Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards	0.4
19.3 Manufacture of footwear	-0.6
23.1 Manufacture of coke oven products	-0.7
19.1 Tanning and dressing of leather	-0.7
15.1 Production, processing and preserving of meat and meat products	-1.2
24.1 Manufacture of basic chemicals	-1.2
36.2 Manufacture of jewellery and related articles	-1.4
35.3 Manufacture of aircraft and spacecraft	-2.0
15.5 Manufacture of dairy products	-3.2
18.2 Manufacture of other wearing apparel and accessories	-4.8
27.4 Manufacture of basic precious and non-ferrous metals	-8.5
<b>UZ Uzbekistan</b>	Percentage point change 2000-2006
23.3 Processing of nuclear fuel	15.1
24.1 Manufacture of basic chemicals	6.3
23.2 Manufacture of refined petroleum products	3.9
18.2 Manufacture of other wearing apparel and accessories	1.8
15.3 Processing and preserving of fruit and vegetables	1.1
17.2 Textile weaving	0.9
15.1 Production, processing and preserving of meat and meat products	0.7
24.2 Manufacture of pesticides and other agro-chemical products	0.3
15.8 Manufacture of other food products	0.2
17.7 Manufacture of knitted and crocheted articles	0.1
29.3 Manufacture of agricultural and forestry machinery	-0.2
27.3 Other first processing of iron and steel	-0.3
32.3 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	-0.3
29.5 Manufacture of other special purpose machinery	-0.4
29.2 Manufacture of other general purpose machinery	-0.4
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	-0.4
15.4 Manufacture of vegetable and animal oils and fats	-2.5
35.3 Manufacture of aircraft and spacecraft	-5.9
17.1 Preparation and spinning of textile fibres	-6.5
27.4 Manufacture of basic precious and non-ferrous metals	-13.7

Figure A.1

**RCA NIS countries  
Commodity trade with EU-25**



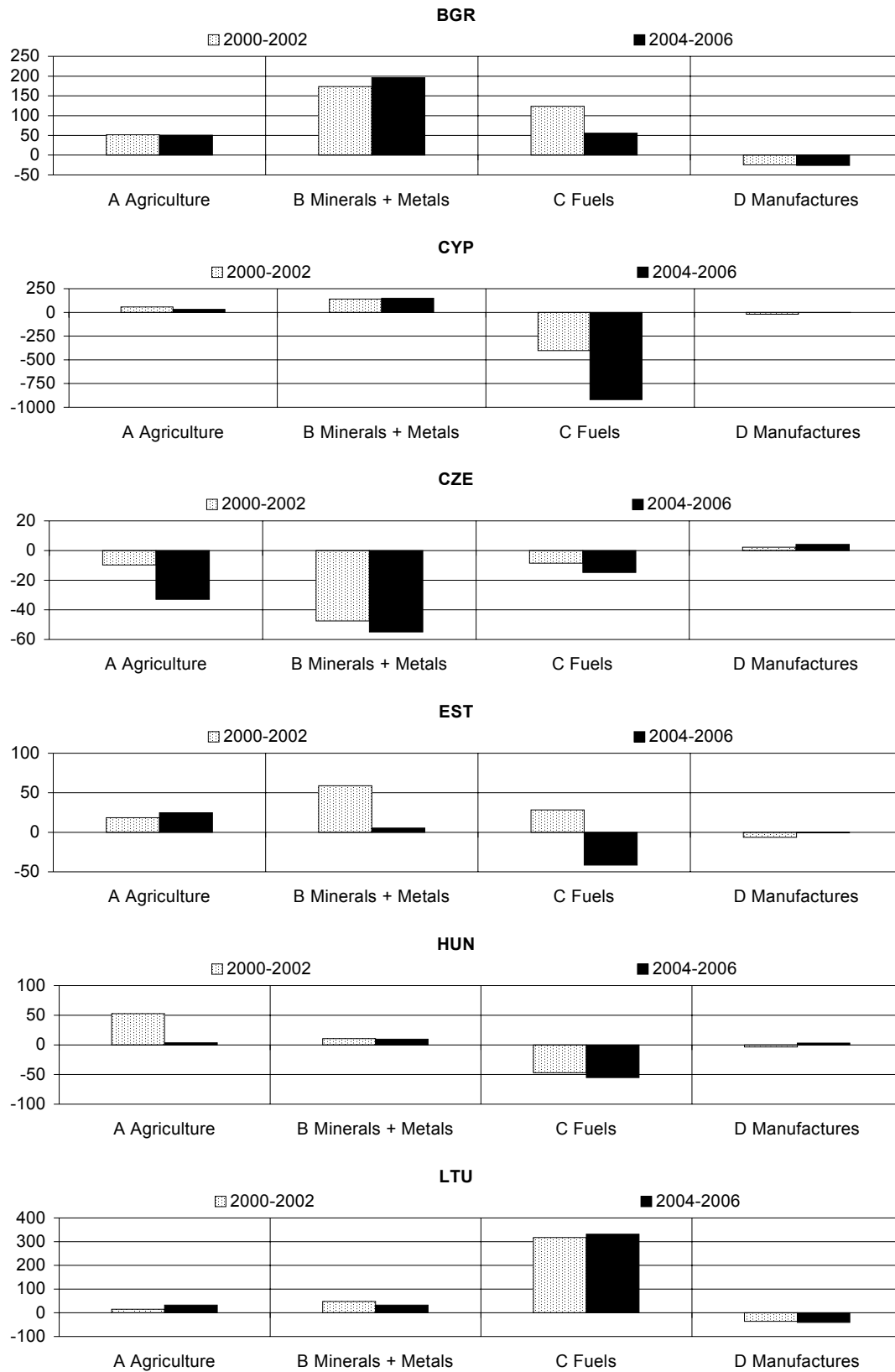


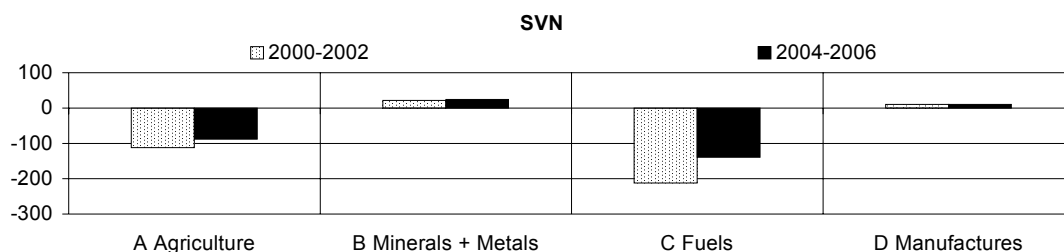
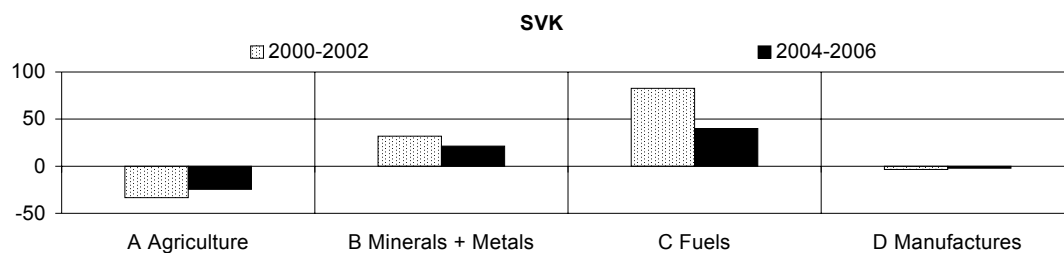
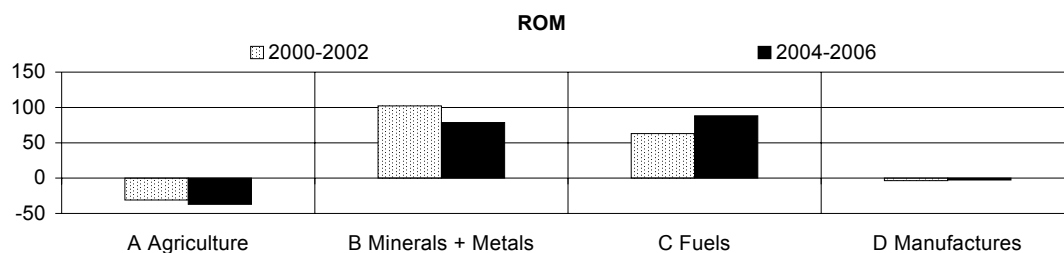
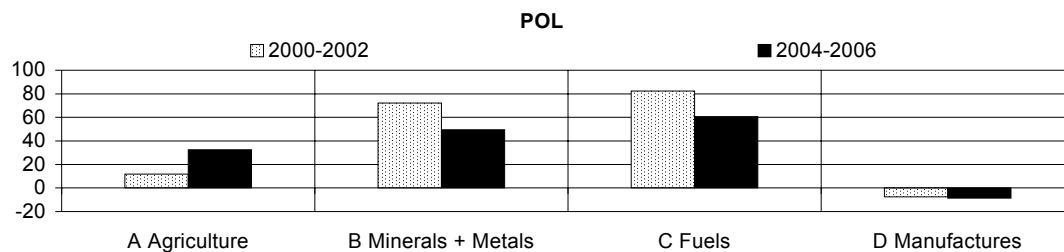
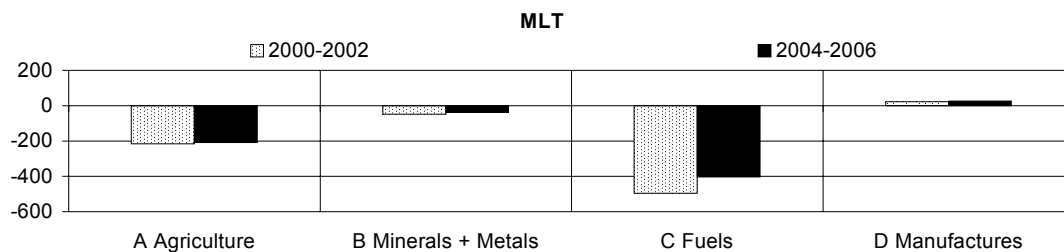
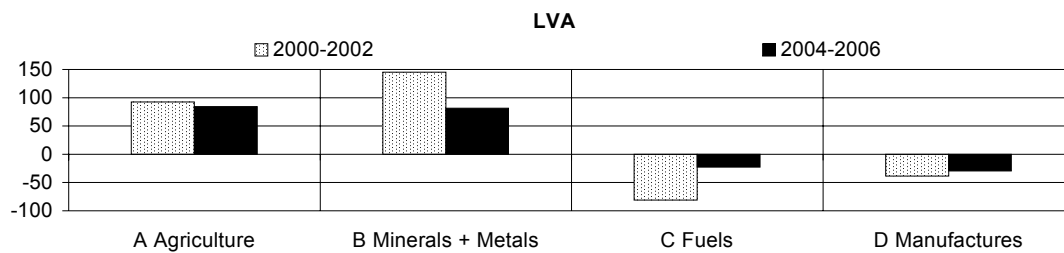
**Legend:** ARM: Armenia, AZE: Azerbaijan, BLR: Belarus, GEO: Georgia, KAZ: Kazakhstan, KGZ: Kyrgyzstan, RUS: Russia, TJK: Tajikistan, TKM: Turkmenistan, UKR: Ukraine  
 1 = period 2000-02; 2 = period 2004-06

**Source:** WITS database, wiiw calculations.

Figure A.2

**RCA NMS-10 countries  
Commodity trade with EU-25**



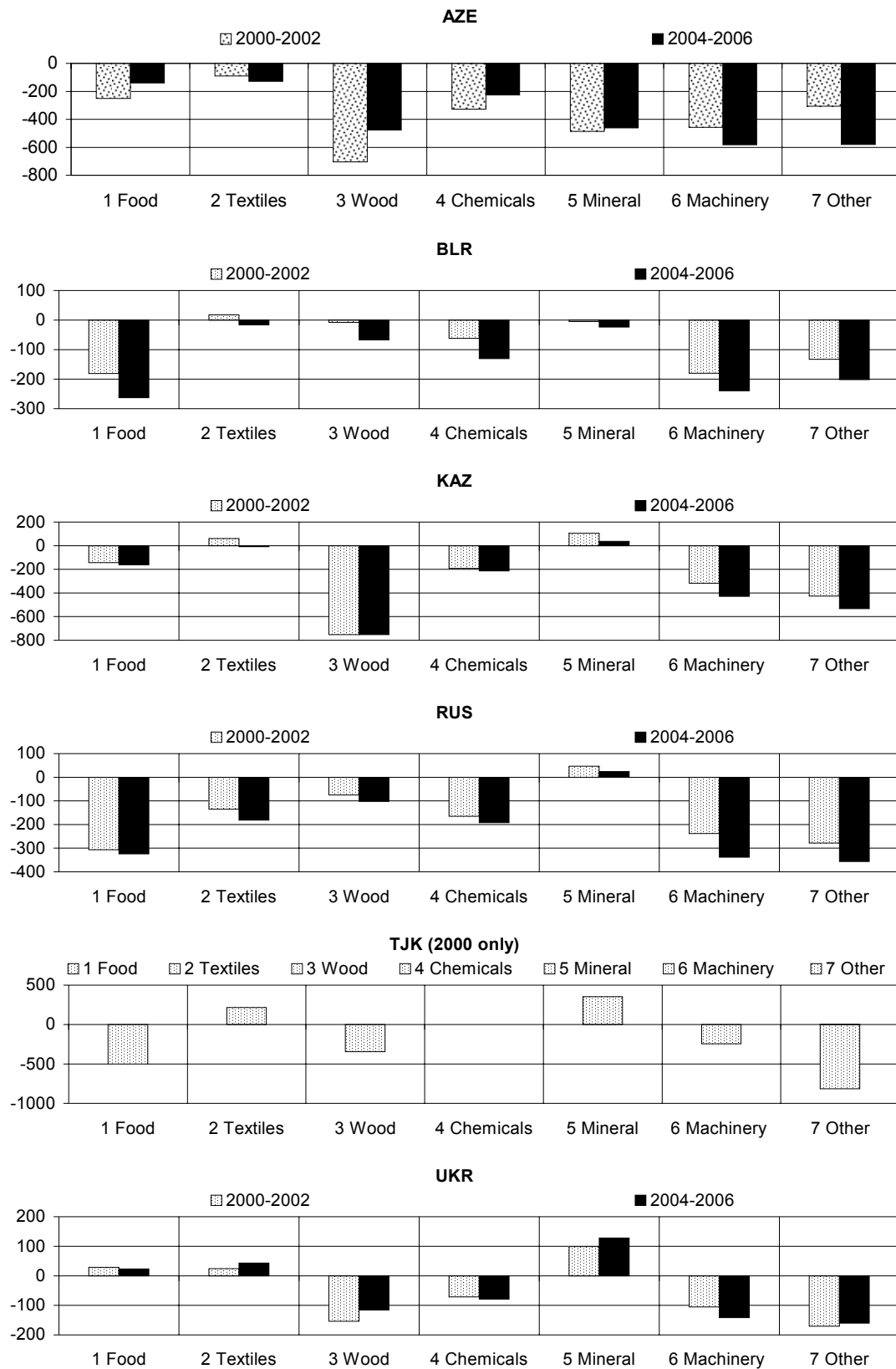


1 = period 2000-02; 2 = period 2004-06

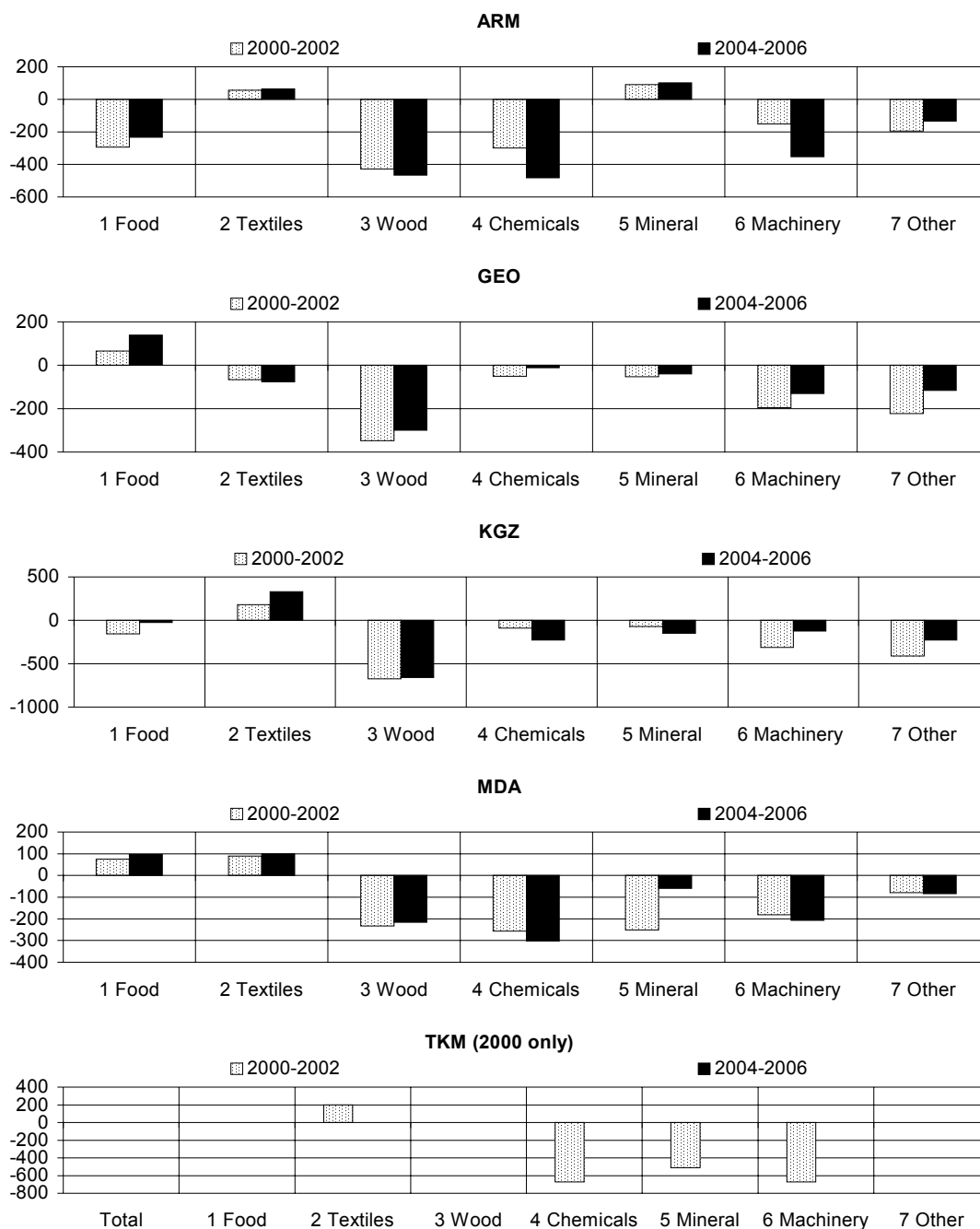
Source: WITS database, wiiw calculations.

Figure A.3

**RCA in manufacturing, NIS countries  
Trade with EU-25**







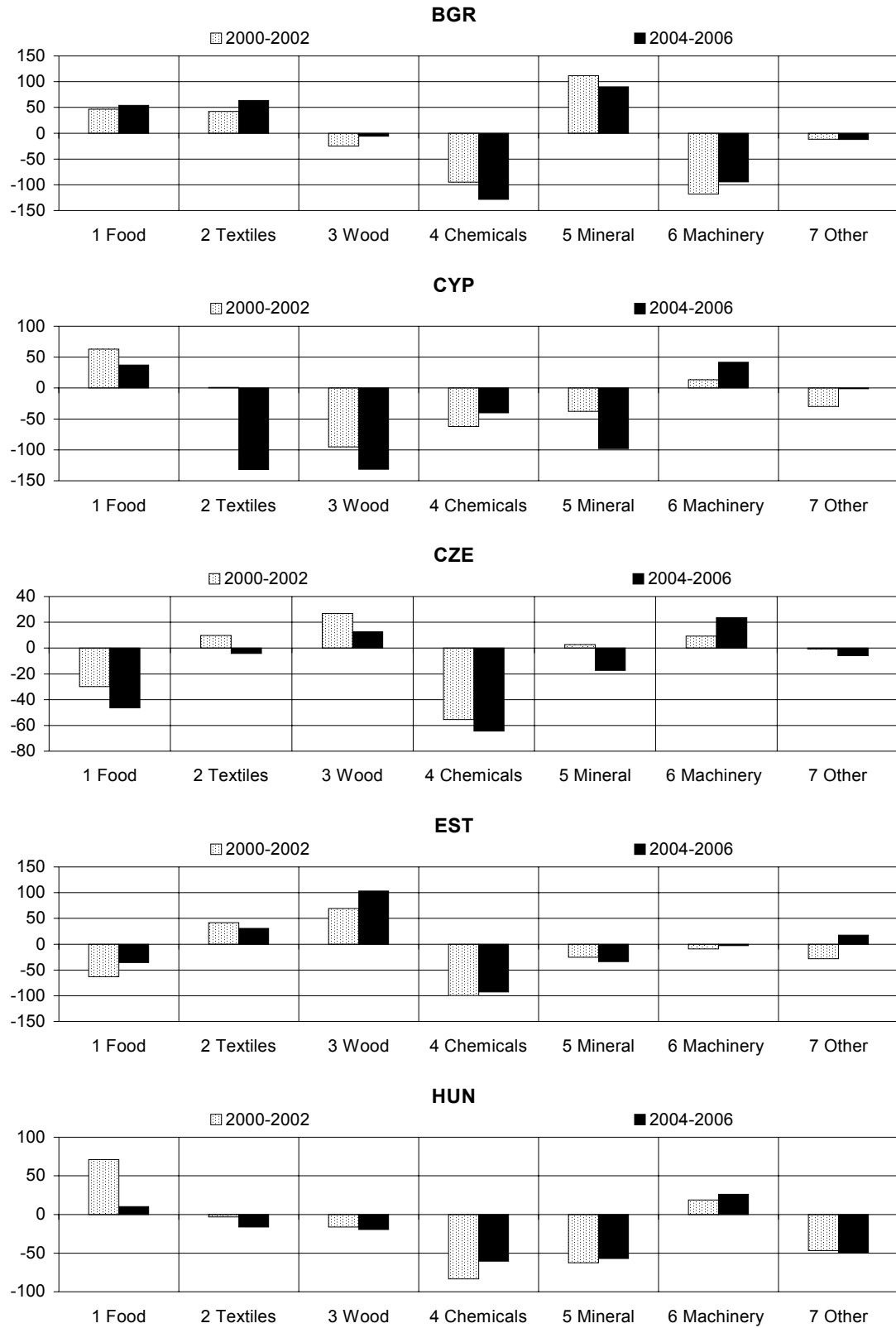
**Legend:** ARM: Armenia, AZE: Azerbaijan, BLR: Belarus, GEO: Georgia, KAZ: Kazakhstan, KGZ: Kyrgyzstan, RUS: Russia, TJK: Tajikistan, TKM: Turkmenistan, UKR: Ukraine  
 1 = period 2000-02; 2 = period 2004-06 (averages)

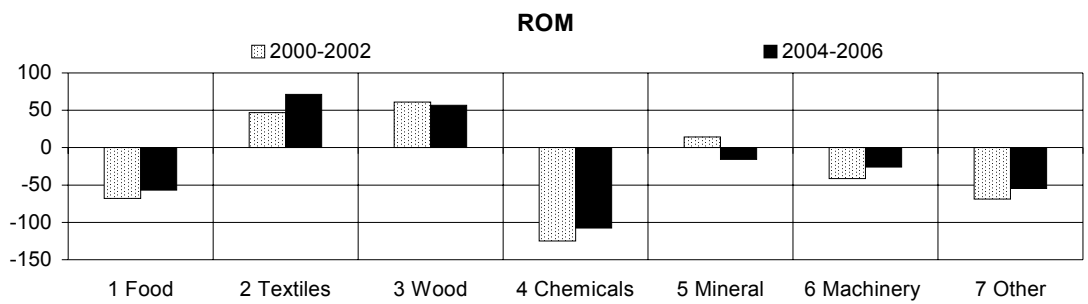
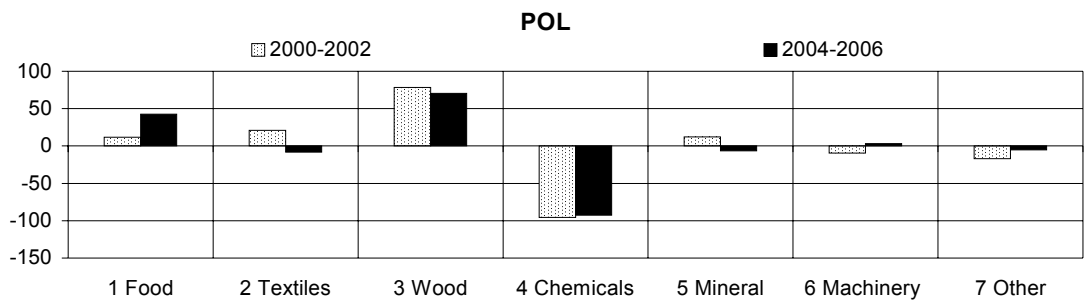
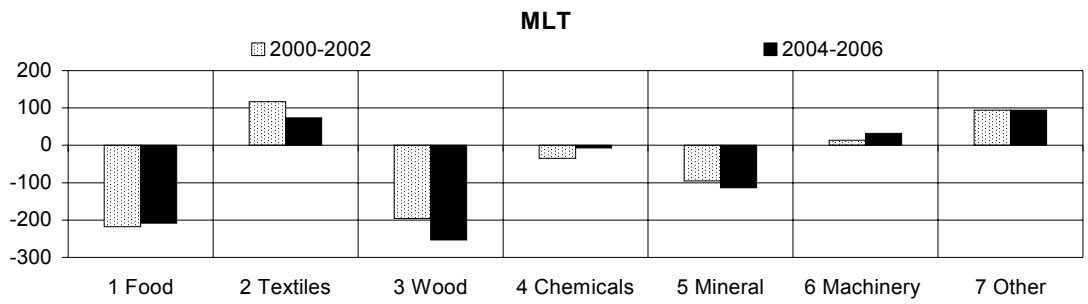
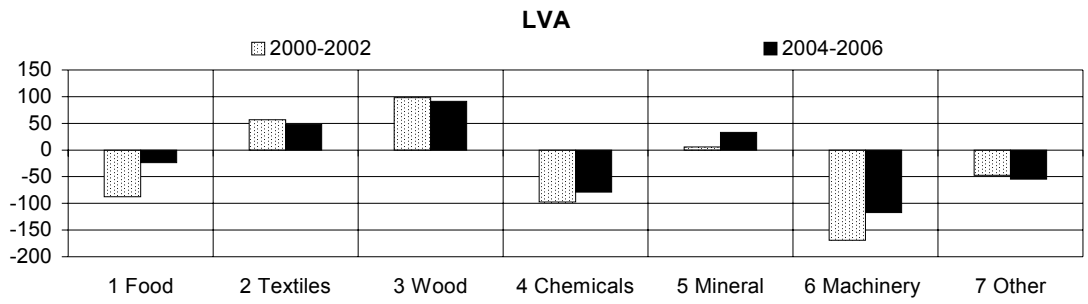
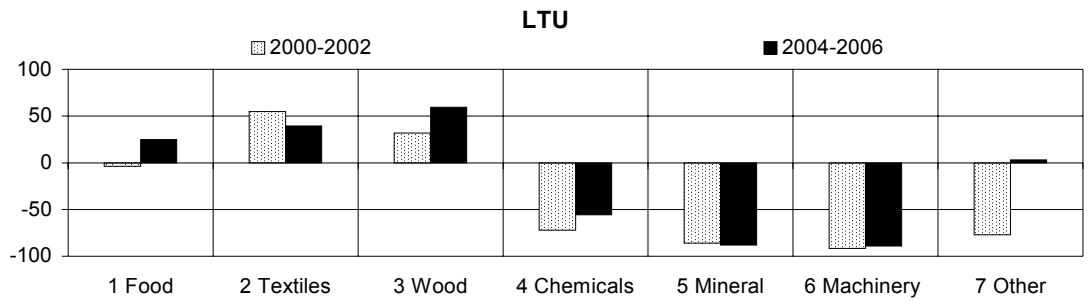
**Legend:** 0 Total, 1 Food, 2 Text/Clothing/Leather/Footwear, 3 Wood/Pulp/Paper, 4 Chemicals and Rubber, 5 Mineral and metal products, 6 Machinery/Electrical equip./Transport equip., 7 Other

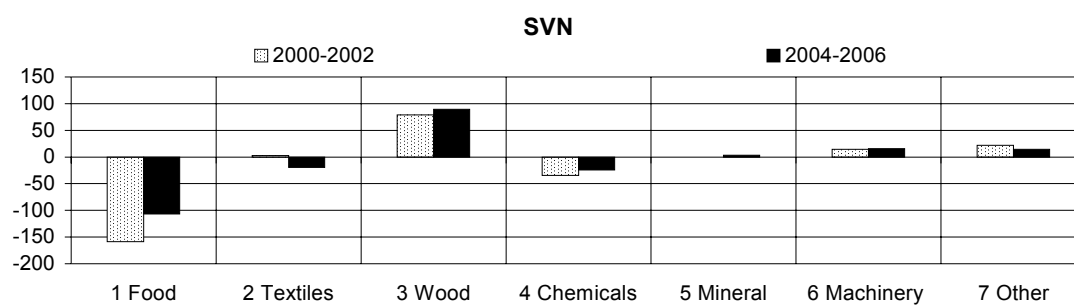
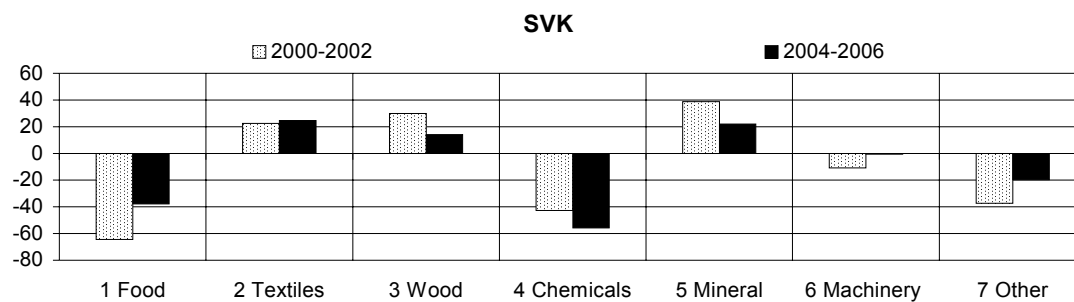
**Source:** WITS database, wiiw calculations

Figure A.4

**RCA in manufacturing, NMS-10 countries**  
**Trade inside EU-25**





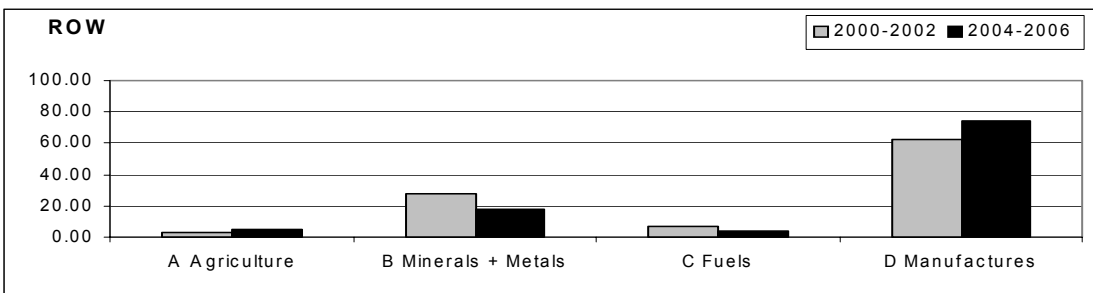
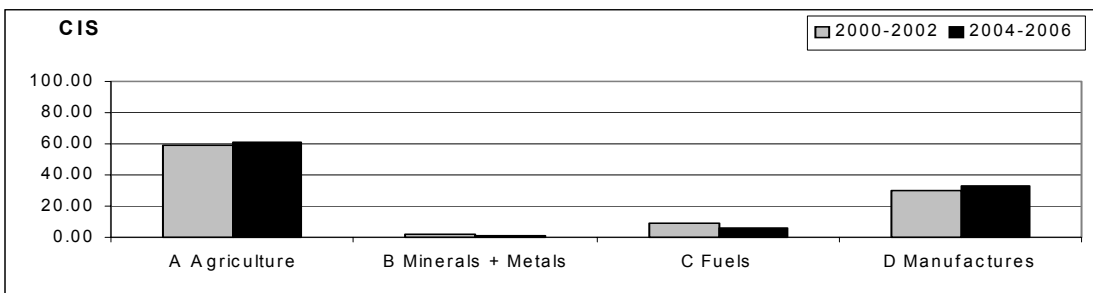
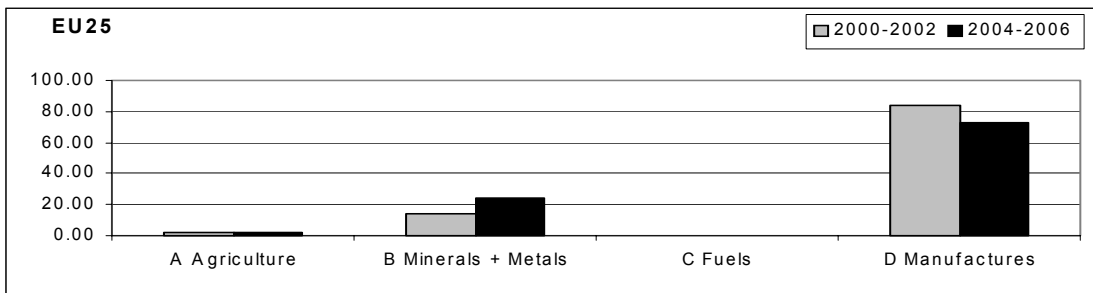
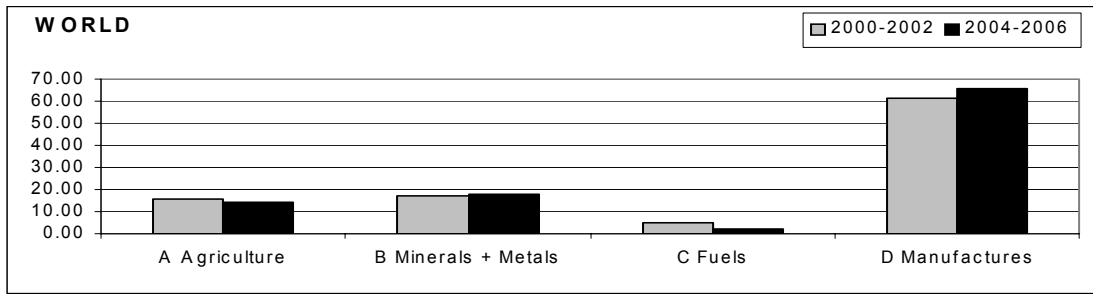


*Legend:* 0 Total, 1 Food, 2 Text/Clothing/Leather/Footwear, 3 Wood/Pulp/Paper, 4 Chemicals and Rubber, 5 Mineral and metal products, 6 Machinery/Electrical equip./Transport equip., 7 Other

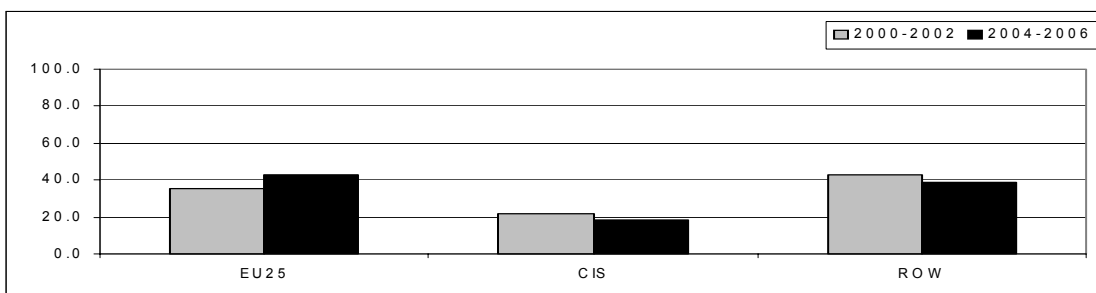
*Source:* WITS database, wiiw calculations.

Figure s A.5

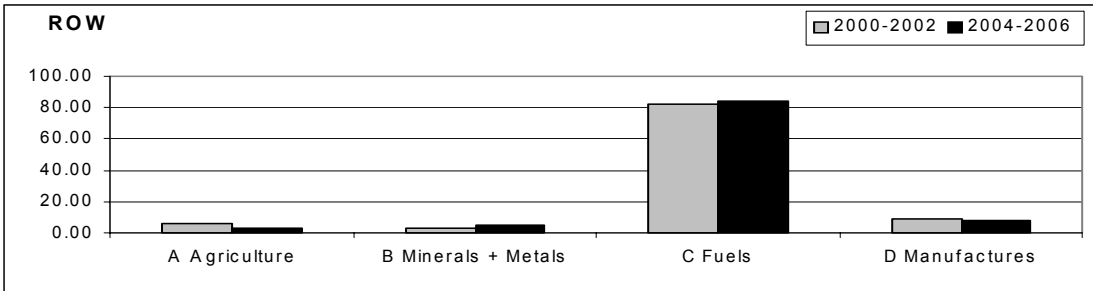
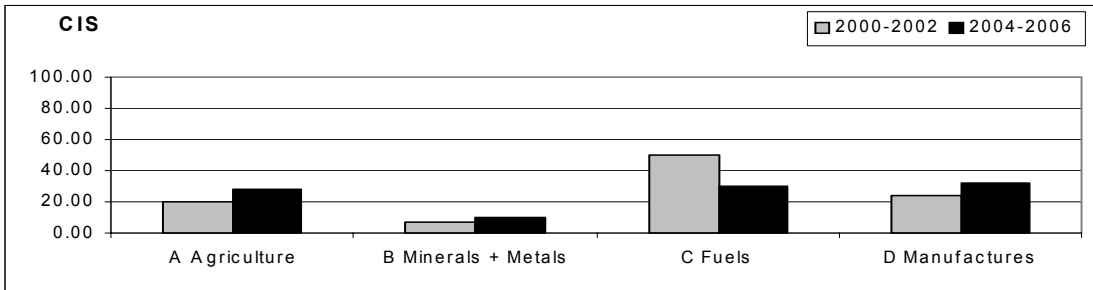
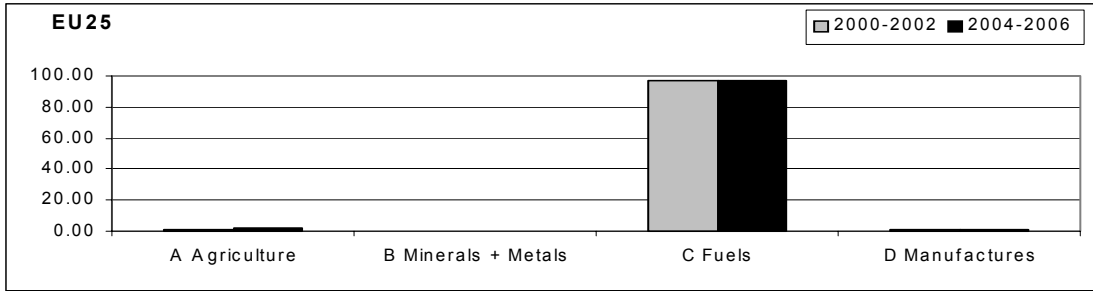
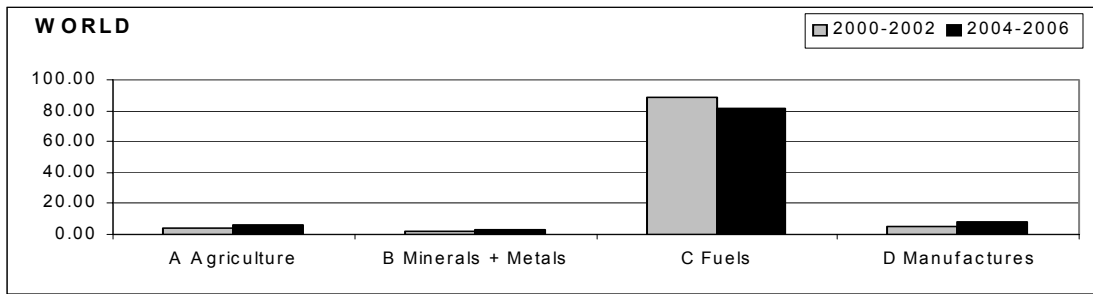
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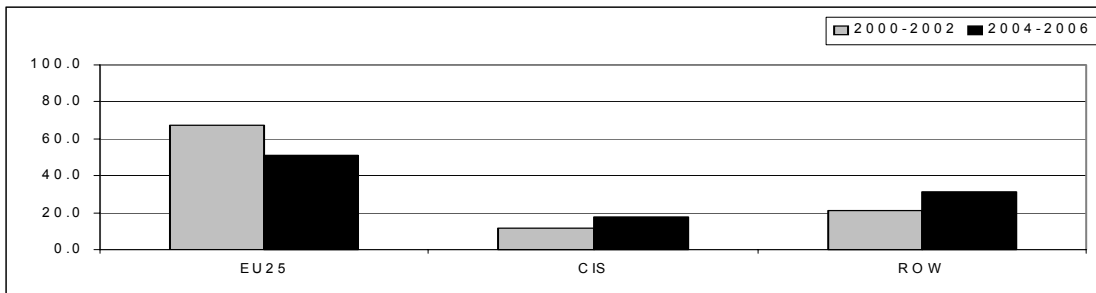
### Export structure by regions ARM



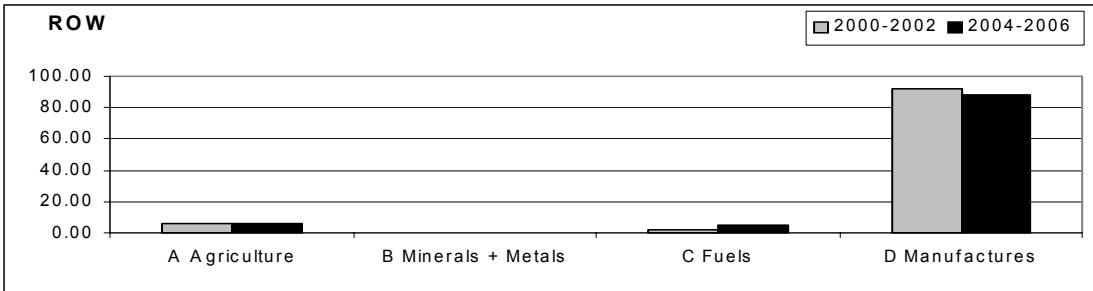
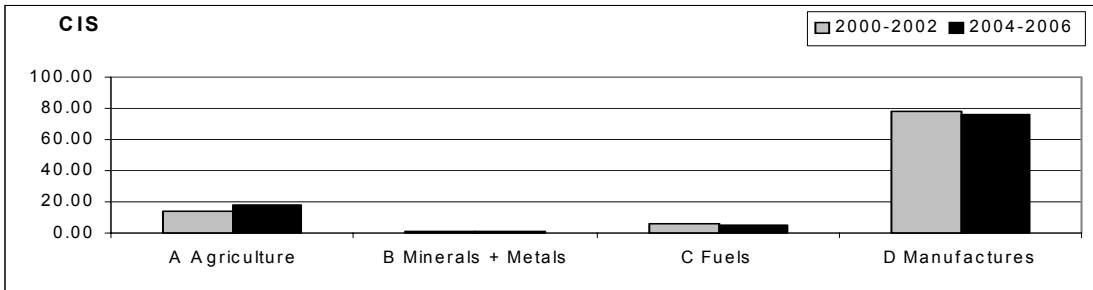
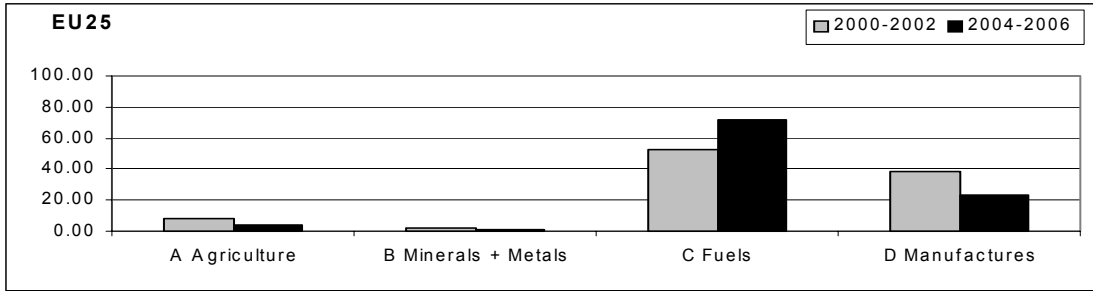
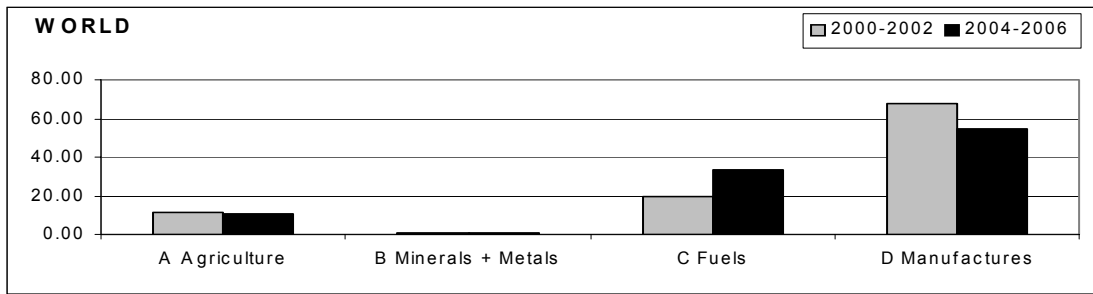
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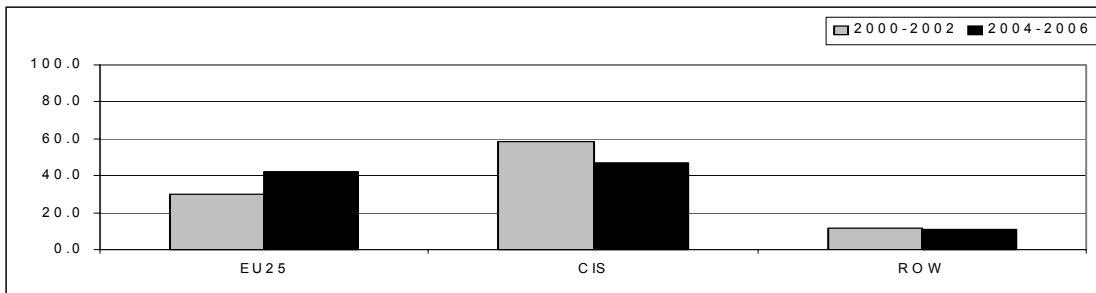
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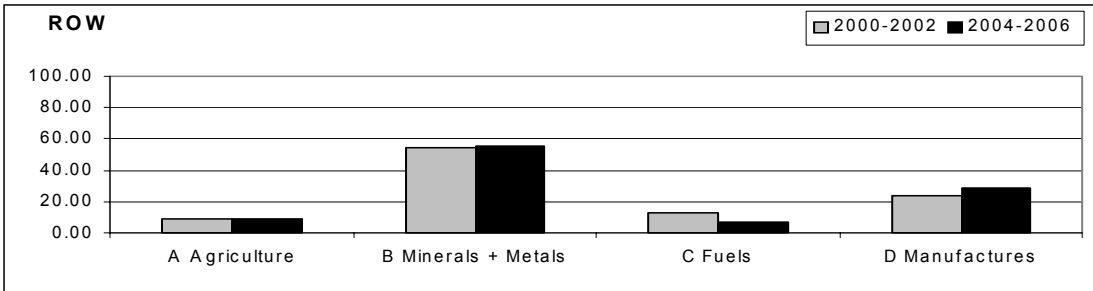
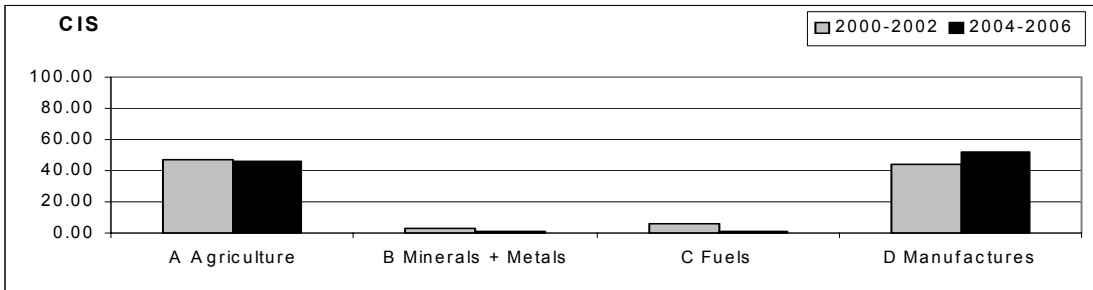
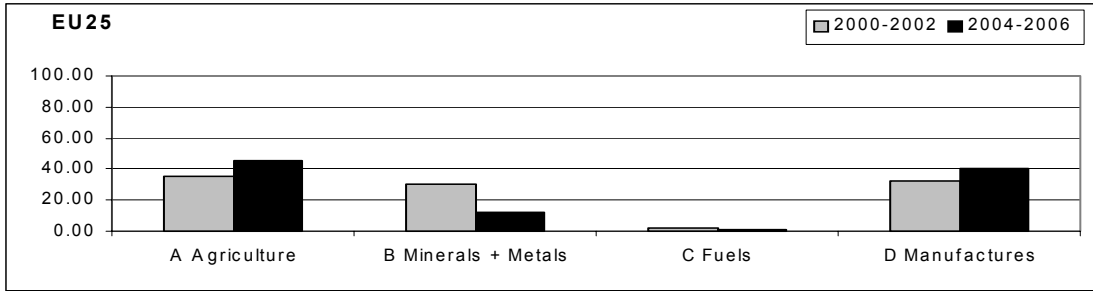
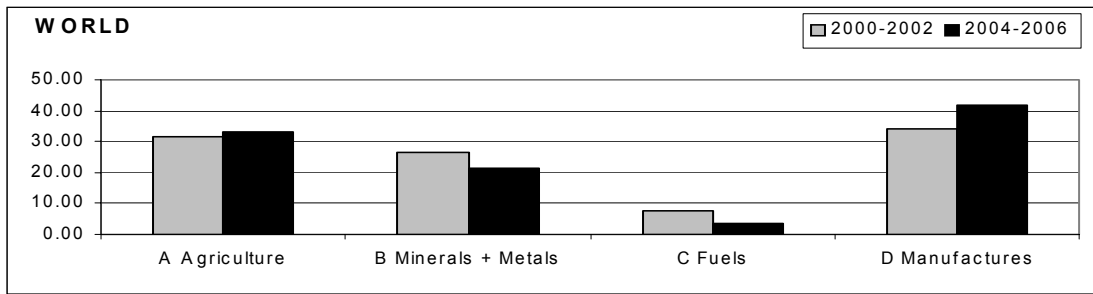
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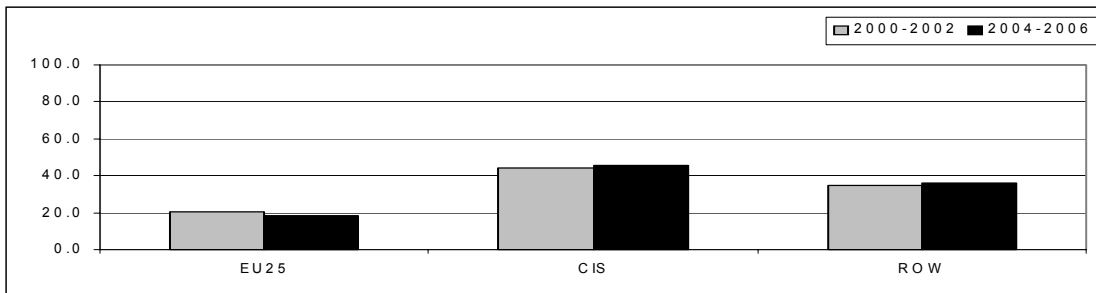
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### Export structure by major product category GEO

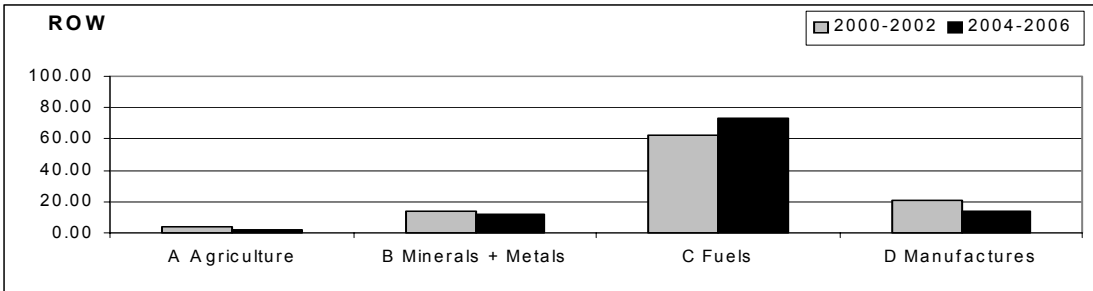
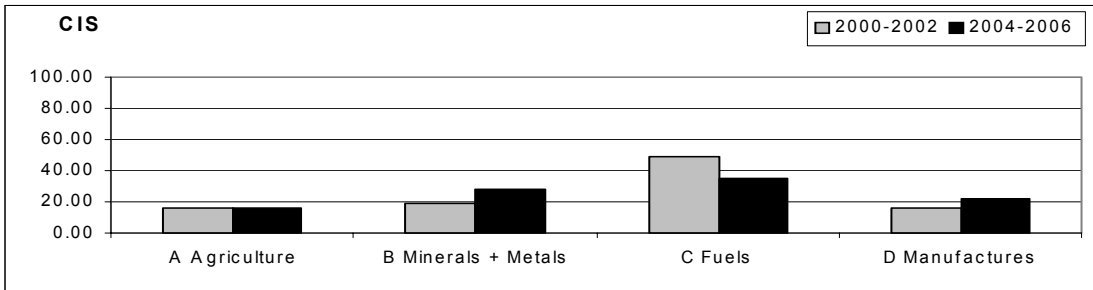
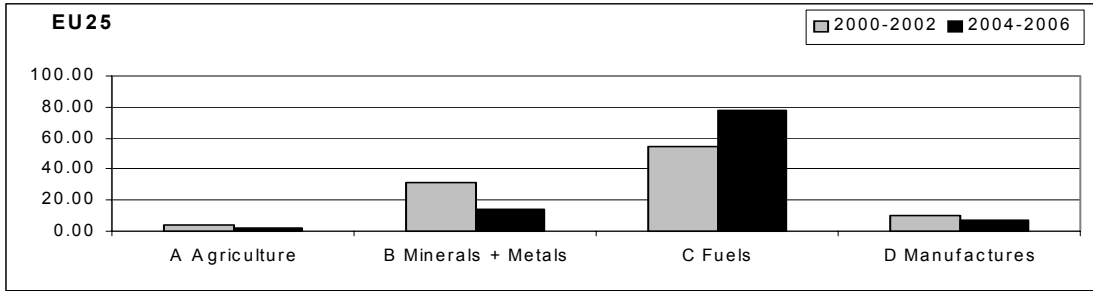
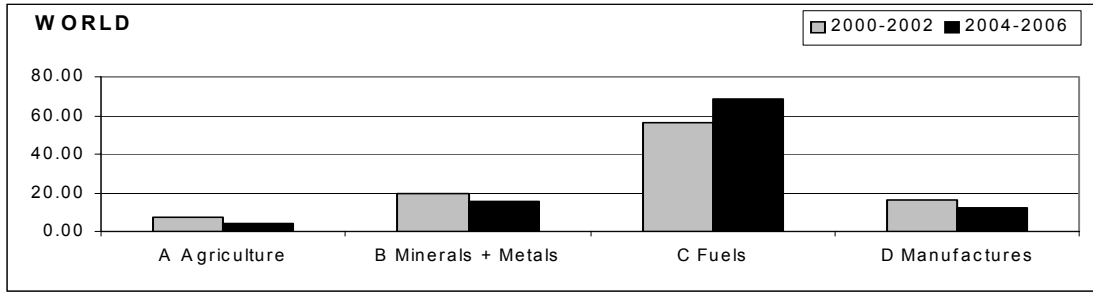


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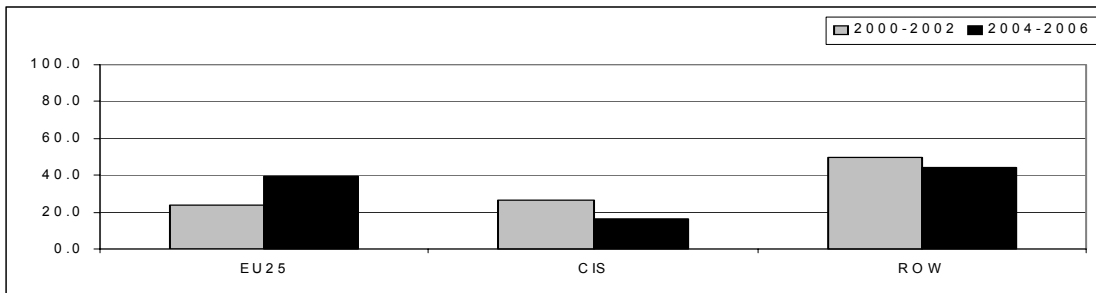




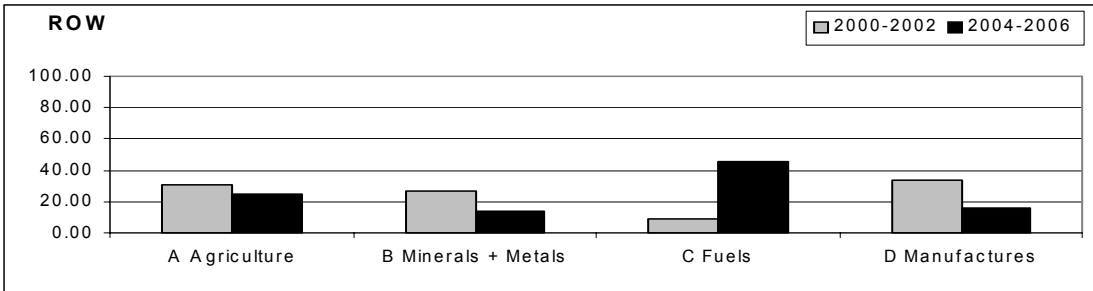
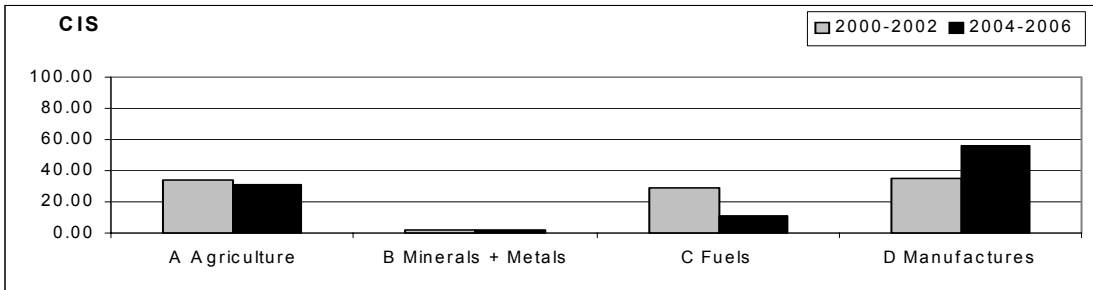
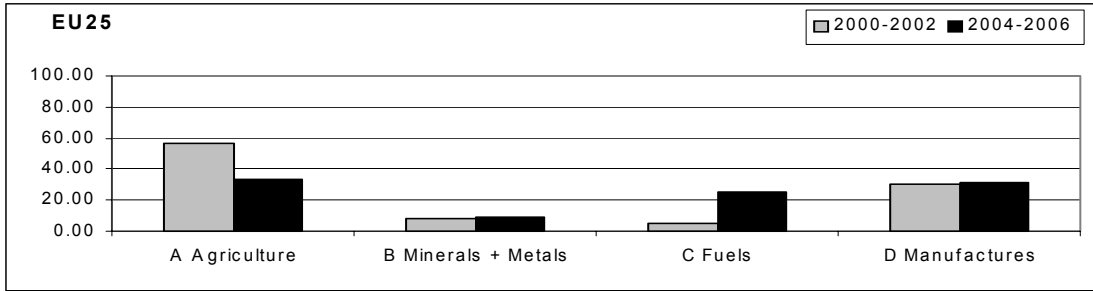
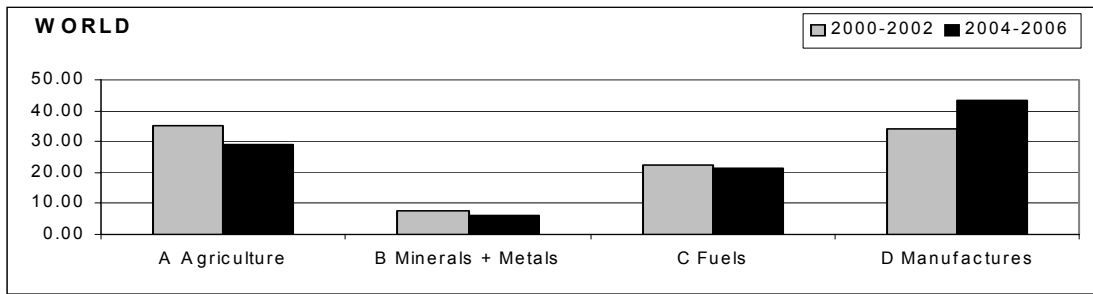
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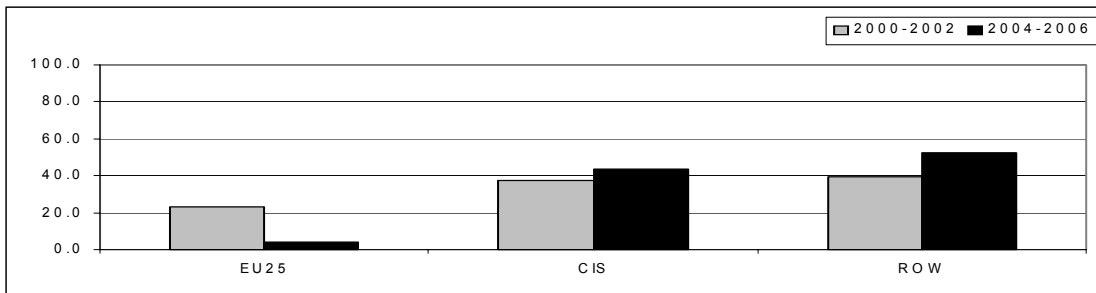
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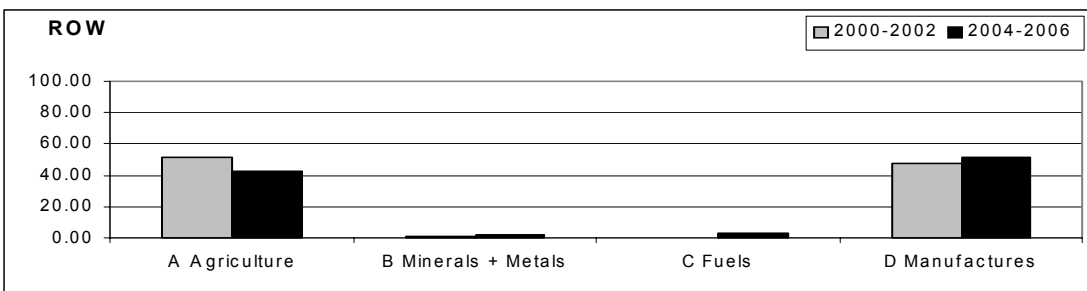
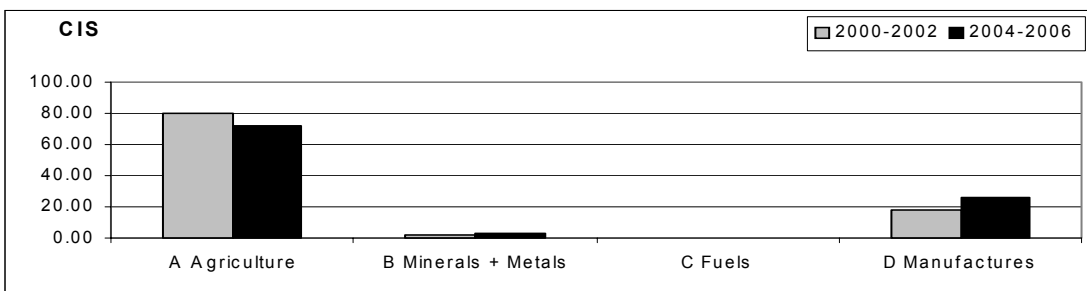
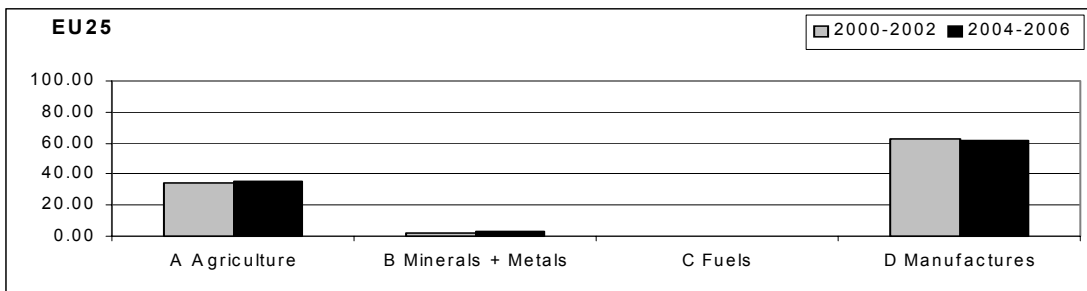
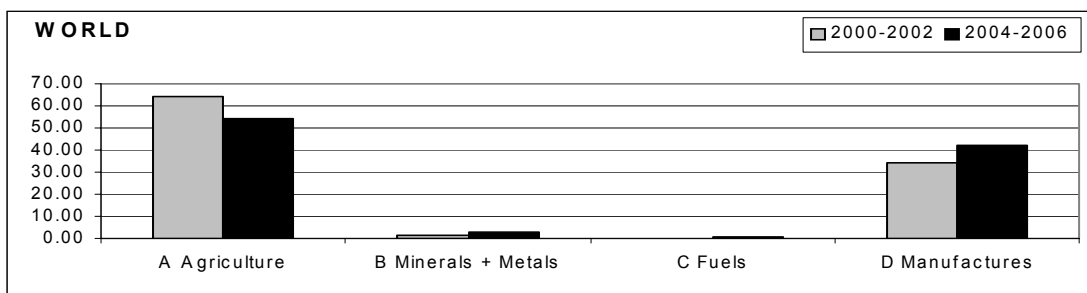
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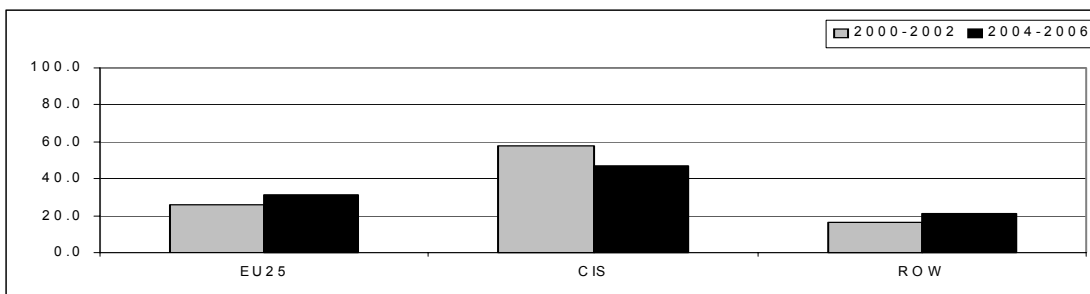
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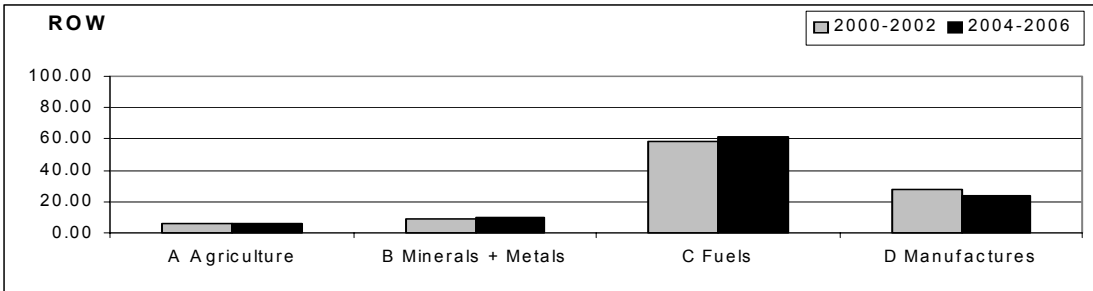
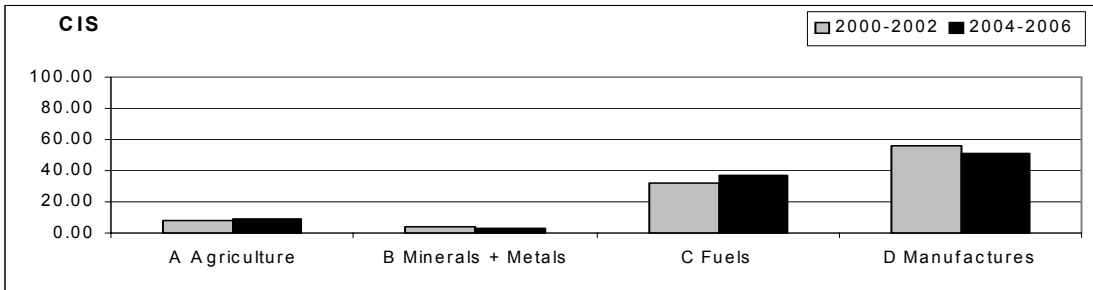
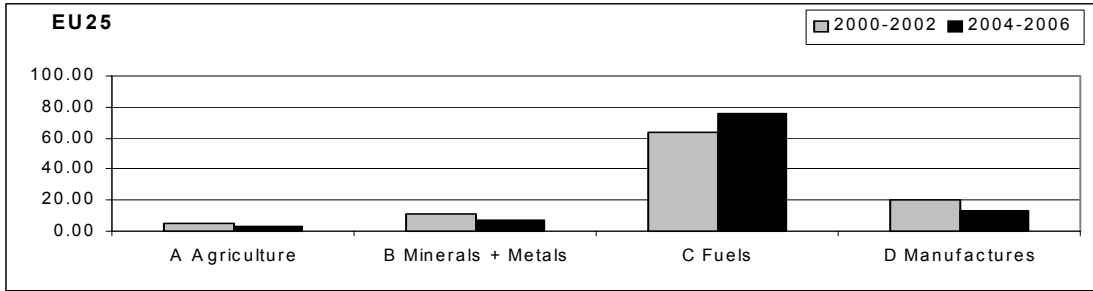
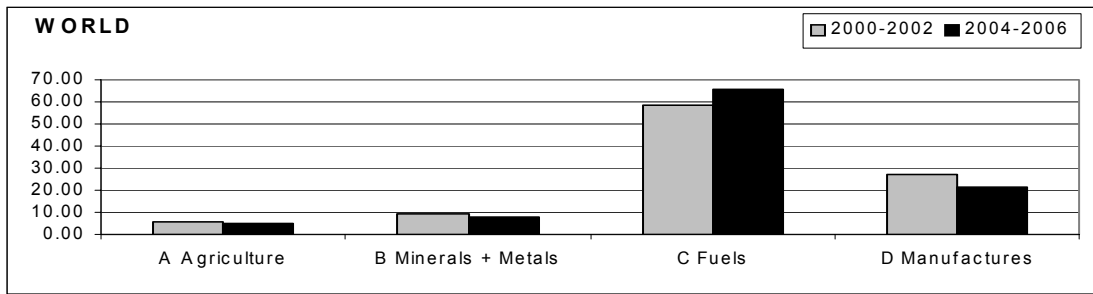
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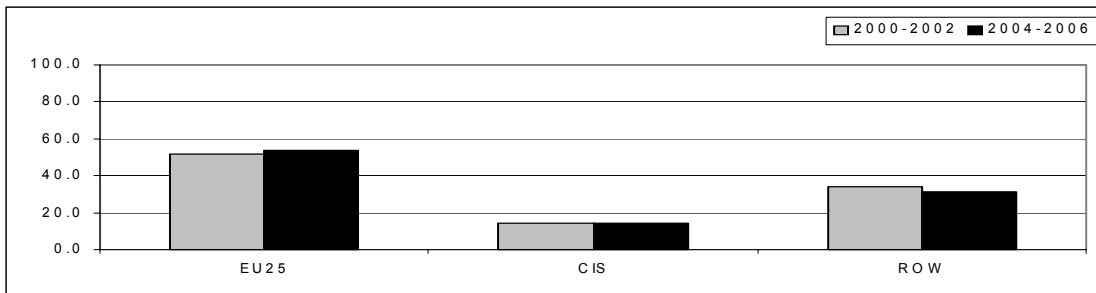
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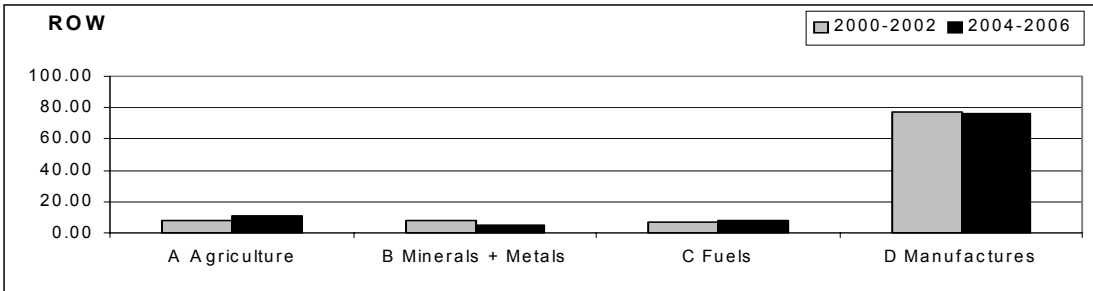
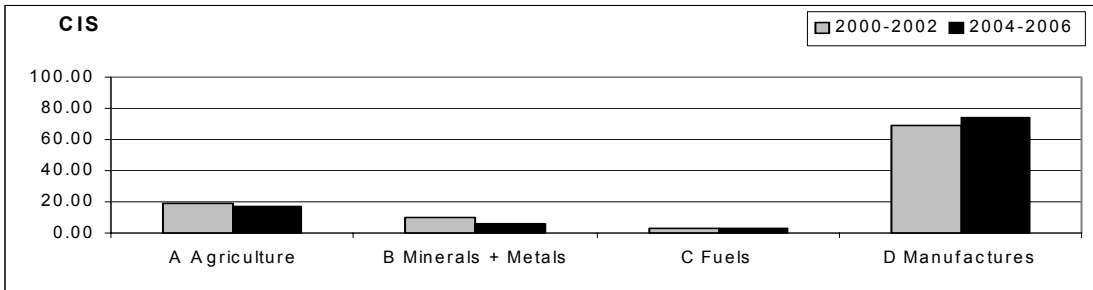
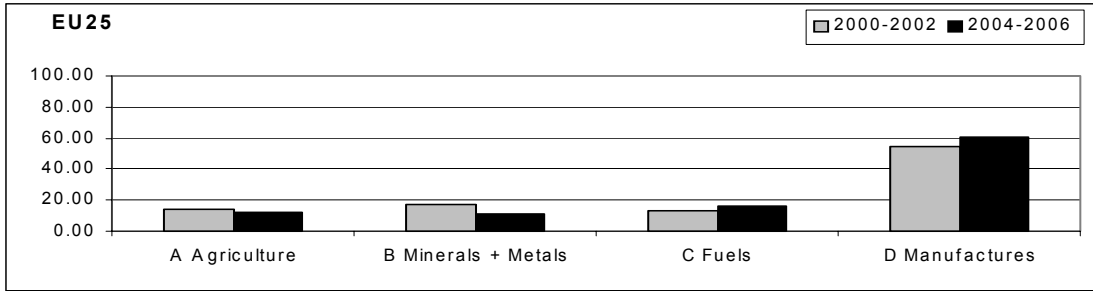
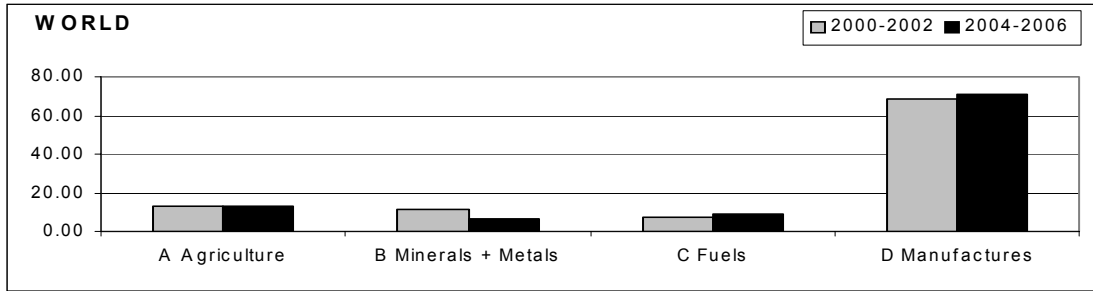
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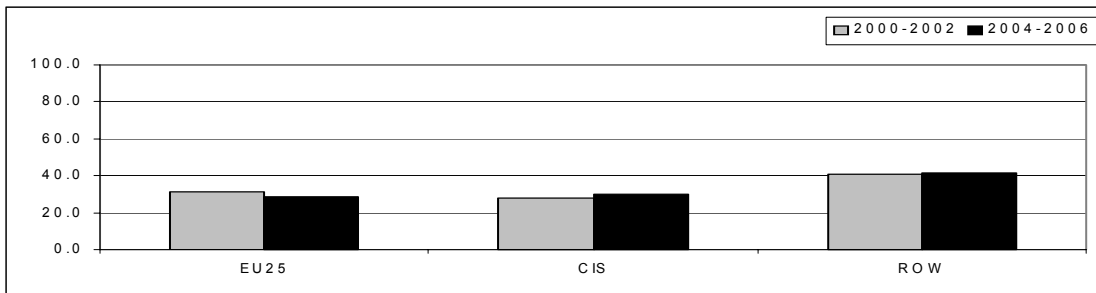
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### Export structure by major product category UKR



### Export structure by regions UKR



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